TOSHIBA

FILE NO. 033-200309

SERVICE MANUAL

COLOUR TELEVISION

C03P Chassis

43PH36P

– SUMMARY –

43PH36P is the same as 50PH36P except for the parts tabled on back of this sheet.
Use this service manual together with the original service manual of 50PH36P (File No. 030-200315).

PUBLISHED IN JAPAN, Jun., 2003 So

REPLACEMENT PARTS LIST DIFFERENCES

Location No.	Part No.	Description
A110	23411886	Cabinet, Light Box
A201	23530903	Cover, Bezel
A225	23445723	Button, Power Button
A258	23530905	Cover, Grille Assy
A266	23450677	Panel, Pole SPK Grille (Right)
A268	23450678	Panel, Pole SPK Grille (Left)
⚠A420	23540149	Cover, Back Cover Proper
A424	23411885	Cabinet, Vented Back Board
A701	23067167	Carton, Case
A702	23935878	Pacing, Bottom Packing
A703	23935880	Pacing, Top Packing
GJ06	24000445	Chip Jumper, 1680 Type
GJ13	24000445	Chip Jumper, 1680 Type
GJ56	24000445	Chip Jumper, 1680 Type
GJ104	24000445	Chip Jumper, 1680 Type
K501	23311036	Screen, 43KNE Lenticular Sheet, SCREEN43KNEL
K502	23311037	Screen, 43KNE Fresnel Sheet, SCREEN43KNEF
K601	23430925	Mirror, 43KEB 860/580x600/ 75x3, MIRROR43KEB
K902	23306435	Remote Hand Unit, CT-90101
RA75	24366103	CF, 10k ohm

Location No.	Part No.	Description
RA100	24011101	Chip, 100 ohm, 1/20W
✻U104	23788678	TEXT Board, PD1100B
✻U902	23788676	SIGNAL Board, PD1098B
✻U906A	23788458	FRONT IN Board, PD1103A1
✻U906B	23788459	RMT IN Board, PD1103A2
✻U906C	23788460	IND Board, PD1103A3
⚠V911R	23587028	Service Kit, SERVICE KIT CRT-R
⚠V912B	23587029	Service Kit, SERVICE KIT CRT-B
⚠V913G	23587030	Service Kit, SERVICE KIT CRT-G
W661	23351214	Speaker, 120X120 8-OHM 20W, SPK-1438AO
W662	23351214	Speaker, 120X120 8-OHM 20W, SPK-1438AO
Y101A	23565951	Owner's Manual, English, 43PH36P
Y101E	23565952	Owner's Manual, Euro, 43PH36P
Y102	23565953	Owner's Manual, QSUG, 43PH36P

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FILE NO. 030-200315

SERVICE MANUAL

COLOUR TELEVISION

C03P Chassis

50PH36P

PUBLISHED IN JAPAN Dec., 2003 (YC)

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CHAPTER 1 GENERAL ADJUSTMENTS

SAFETY INSTRUCTIONS

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" INSTRUCTIONS BELOW.

X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is (A) kV at zero beam current (minimum brightness) under a (C) V AC power source. The high voltage must not, under any circumstances, exceed (B) kV.

   Refer to table-1 for high voltage (A), (B) & AC voltage (C). (See SETTING & ADJUSTING DATA on page 31)

   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
3. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

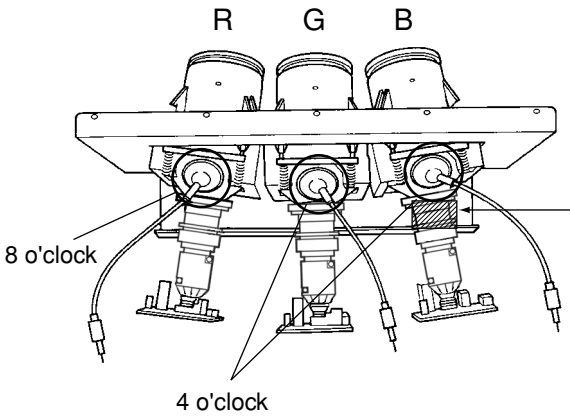
1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.

PRODUCT SAFETY NOTICE

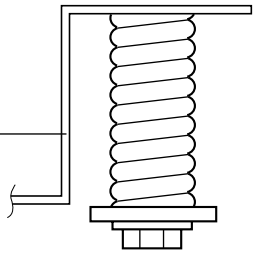
Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

CRT ASSEMBLY REPLACEMENT AND MOUNTING

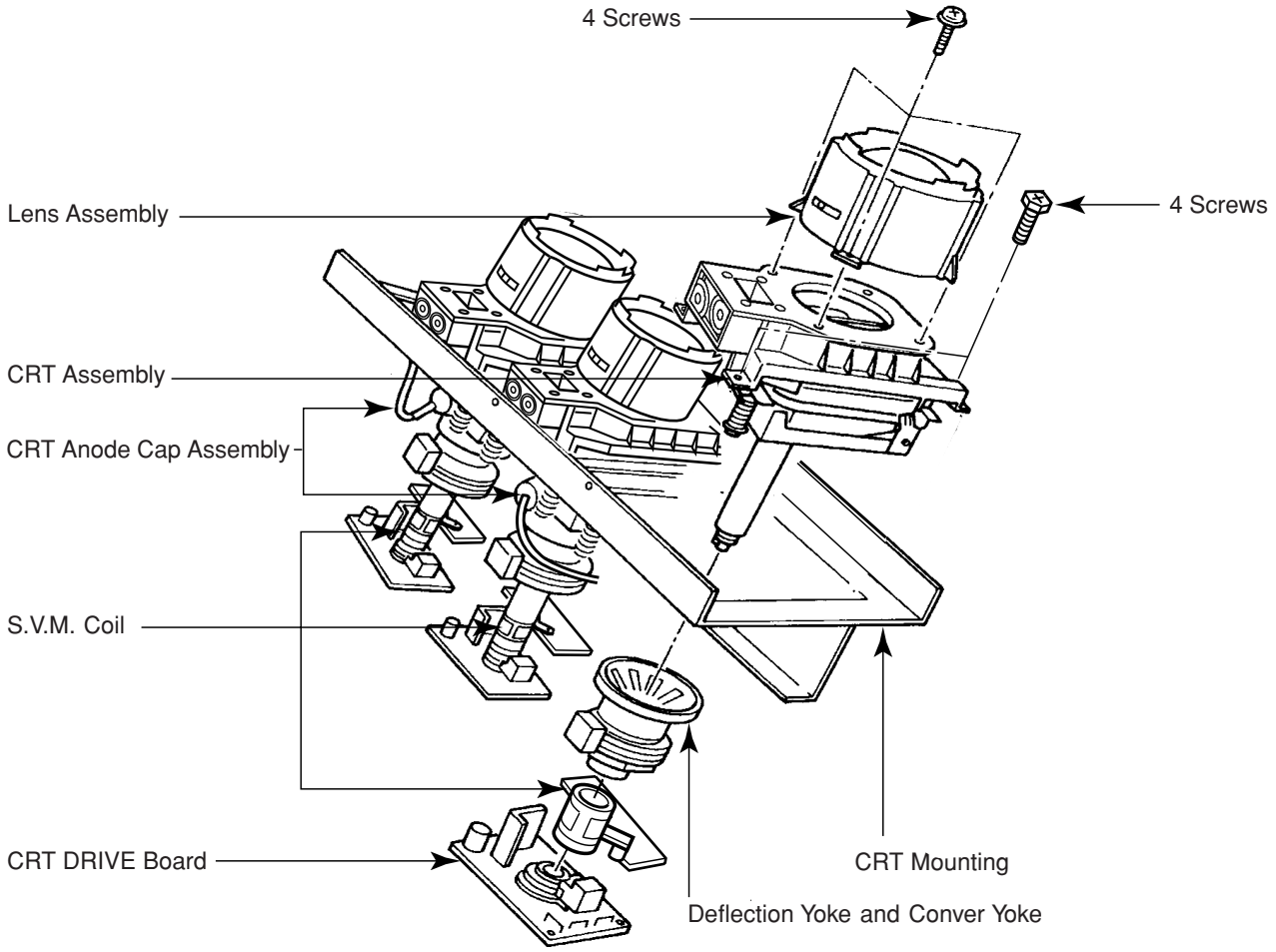
CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.



Attention Serviceman



The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT" Adjustment Screws DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.



Lens and Neck Components View

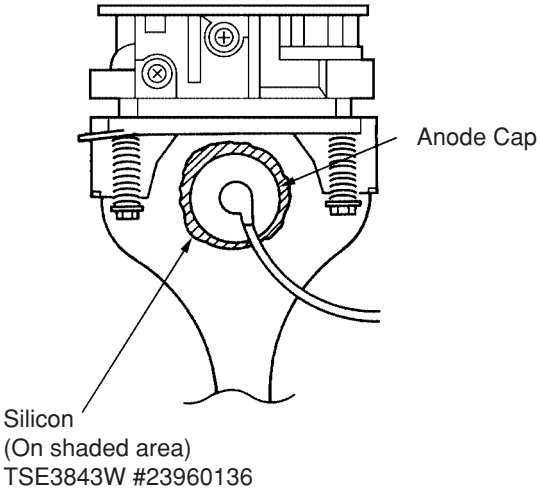
TO REMOVE CRT (Same procedure for R, G, B)

1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.

CRT REPLACEMENT (Same procedure for R, G, B)
Reverse the removal procedures except the followings.

1. Anode Cable should be replaced with new one. See "SERVICING PRECAUTIONS" shown below.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

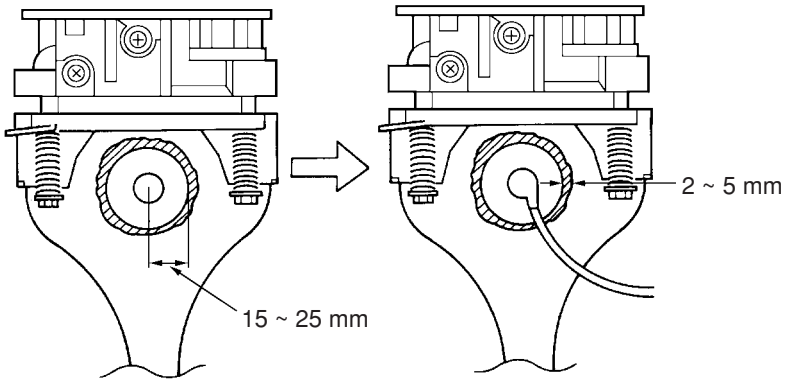
CAUTION: Align the Anode cable as illustrated on page 4.



ADJUSTING PROCEDURE IN REPLACING CRT

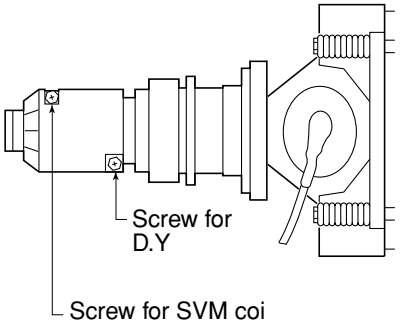
1. R.G.B. CUTOFF (SCREEN VR) ADJUSTMENT (page 6.)
2. R.G.B. FOCUS ADJUSTMENT (page 6.)
3. PICTURE TILT ADJUSTMENT (page 7.)
4. USER CONVERGENCE CENTER CHECK (Refer to owner's manual.)
5. CENTERING ADJUSTMENT (page 7.)
6. CONVERGENCE ADJUSTMENT (page 21.)
7. WHITE BALANCE ADJUSTMENT (page 14.)

Adjustments are complete.



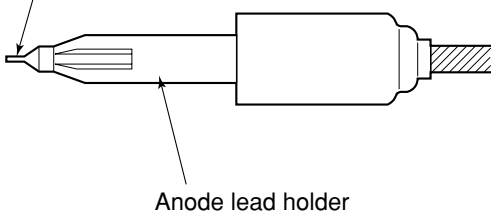
SERVICING PRECAUTIONS

■ Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence, and result in no variable quantity.



■ When replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.), remove the anode lead holder from old one and attach the holder again to new anode lead.

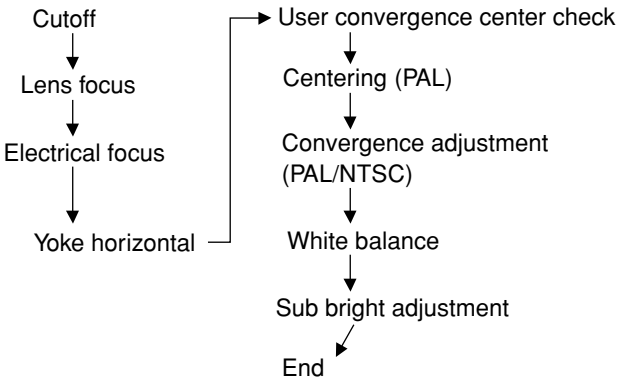
■ Check the point of anode lead in a straight line, if it is winding, please revise it.



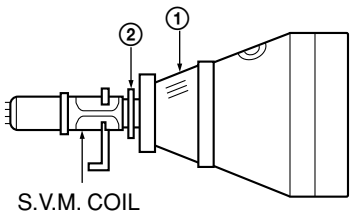
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 3 OF THIS MANUAL.

PICTURE TUBE COMPONENTS ADJUSTMENT

ADJUSTING PROCEDURE IN REPLACING CRT



DESCRIPTION OF NECK COMPONENTS



① Deflection yoke and convergence yoke.
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.

② Centering magnet
After adjusting picture tilt, picture position is finally fixed by this magnet.
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

PREPARATION
Operate the receiver for at least 5 minutes.

R, G, B CUTOFF (SCREEN VR) ADJUSTMENT

1. Adjust before replace the screen assembly.
2. Set user control to reset position.
   (CONTRAST → Max
   BRIGHTNESS, COLOR, TINT → Center.)
3. Call up the adjustment mode display, then select the item RCUT.
4. Adjust the data of items **RCUT**, **GCUT**, and **BCUT** to "40H".
5. Press the ⇄ button on Remote. (Y-MUTE : ON)
6. Gradually rotate R, G and B screen volume of FOCUS PAC clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them.
   (Lookin to the lens in order to check the raster.)
7. Press the ⇄ button on Remote. (Return to Normal Picture)

RGB FOCUS ADJUSTMENT

1. Call-up the adjustment mode (see page 10)
2. Press ⊕ button on the remote controller in order to display the internally-generated cross-hatch (See TEST SIGNAL SELECTION on page 11.)
3. Expose only RED by covering the GREEN and BLUE lenses with caps.
4. Loosen the RED lens fixing screws (refer to Fig. a), and adjust the RED lens focus to obtain the sharpest point while observing the middle and peripheral sections of the screen.

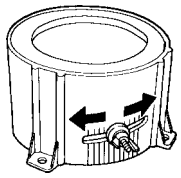


Fig. a

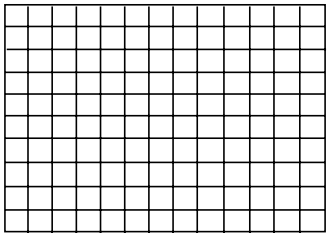
5. Use the focus VR of "R" of the focus pack in order to adjust the electric focus in the middle and peripheral sections of the screen to its sharpest level.
6. Check the RED focus of the whole screen and if necessary repeat steps 4 and 5.
7. Fix the RED lens by tightening its fixing screws.
8. Expose only GREEN by covering the RED and BLUE lenses with caps.
9. Display the internally-generated cross-hatch signal.
10. Adjust the GREEN lens focus on the left border of the screen to its sharpest level, then check the focus on the right border, and if it is at its sharpest level, fix it in that position by tightening the lens screws.

    (1) If the horizontal line toward the right border is red-flared, turn the lens screw slightly right in order to balance it with the left border. (After adjustment, the left border tends to be slightly green-flared, and the right border tends to be slightly red-flared.)
    (2) If the horizontal line toward the right border is green-flared, turn the lens screw slightly left in order to balance it with the left border. (After adjustment, the left border tends to be slightly red-flared, and the right border tends to be slightly green-flared.)

Note: The aim of the above-described adjustment procedure for the Green lens focus is to obtain the best lens focus after 2 - 3 hours of warming up taking into account the focus drift; it applies if the warming up time before the adjustment is less than 30 minutes. (The horizontal line in the screen middle section tends to be slightly red-flared.)

In case of warming up of more than 2 hours under a condition that the large anode current is running through the projection tube so that for example the all-white pattern appears, adjust to obtain the sharpest focus while observing the whole screen like in the RED case.

11. Press ⊖ button on the remote controller in order to display the internally-generated black cross-hatch. (See TEST SIGNAL SELECTION on page 11.)



12. Use the focus VR of "G" of the focus pack in order to adjust the electric focus in the middle section of the screen to its sharpest level.

Note: Normally the most clearly visible point of the scanning line is the sharpest point of the Green focus, however as the characteristics vary depending on the projection tube, the sharpest focus points of the vertical and horizontal lines may not match each other, thus when you turn the focus VR, if the picture tends to be tremendously unstable (rolls horizontally or vertically), adjust the balance of the vertical and horizontal lines to its best position.

13. Check the GREEN focus of the whole screen and if necessary repeat steps 10 and 11.
14. Fix the GREEN lens by tightening up its fixing screws.
15. Expose only BLUE by covering the RED and GREEN lenses with caps.
16. Press ⊖ button on the remote controller in order to display the internally-generated cross-hatch (See TEST SIGNAL SELECTION on page 11.)
17. Loosen the BLUE lens fixing screws (refer to Fig. a), and adjust the BLUE lens focus while observing the middle and peripheral screen sections.
18. Press ⊖ button on the remote controller in order to display the internally-generated black cross-hatch (See TEST SIGNAL SELECTION on page 11.)
19. Use the focus VR of "B" of the focus pack in order to adjust the focus in the middle section of the screen to its sharpest level.
    (The point of the Blue focus becomes sharpest when the brightness level of BLUE is lowest, the cross-hatch is clearly visible.)

Note: Keep in mind that only the BLUE electric focus is adjusted with the black cross-hatch.

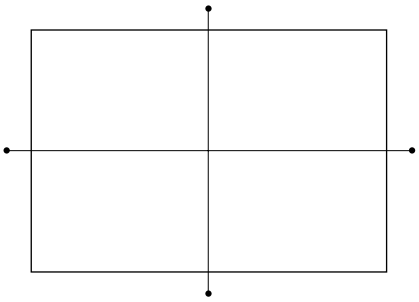
20. Check the BLUE focus of the whole screen and if necessary repeat steps 17 and 19.
21. Fix the BLUE lens by tightening its fixing screws.

TILT ADJUSTMENT

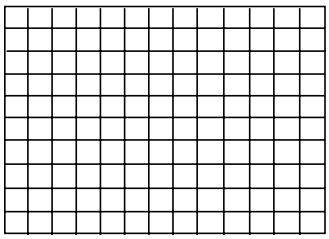
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

CENTERING ADJUSTMENT

1. Stretch a thread between two center of screen edge (top and bottom, left and right).



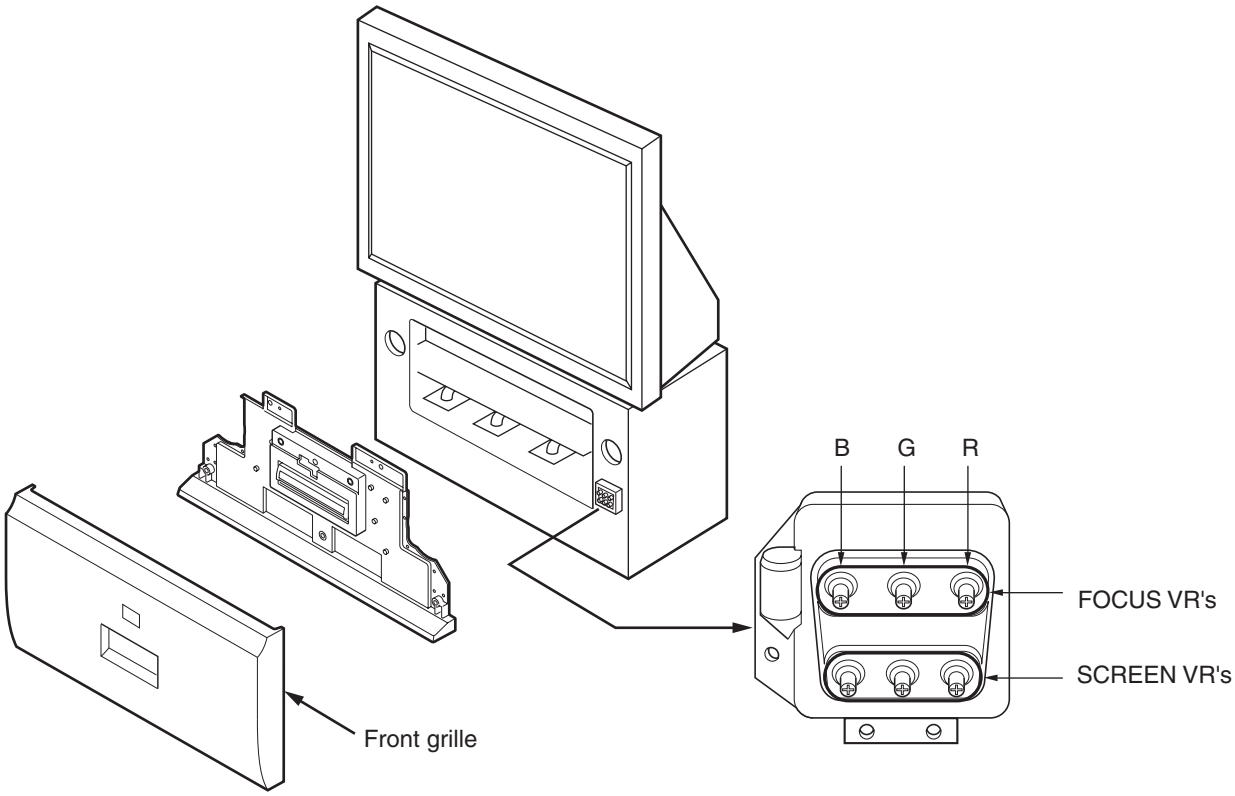
2. Select the adjustment mode. (See page 10.)
3. Press ⊖ button on the Remote Control to display the black cross-hatch.



4. Adjust G centering magnet so that the cross-hatch pattern center comes to screen center.
5. Perform HEIGHT adjustment . (See page 14.)
6. Perform WIDTH adjustment. (See page 14.)
7. Check whole quality of green line.
8. Adjust R, B centering magnet so that the cross-hatch pattern center comes to screen center.

LOCATION OF SCREEN AND FOCUS VR'S

To remove the Speaker grille and Front panel.



REPLACEMENT OF HIGH VOLTAGE CABLE

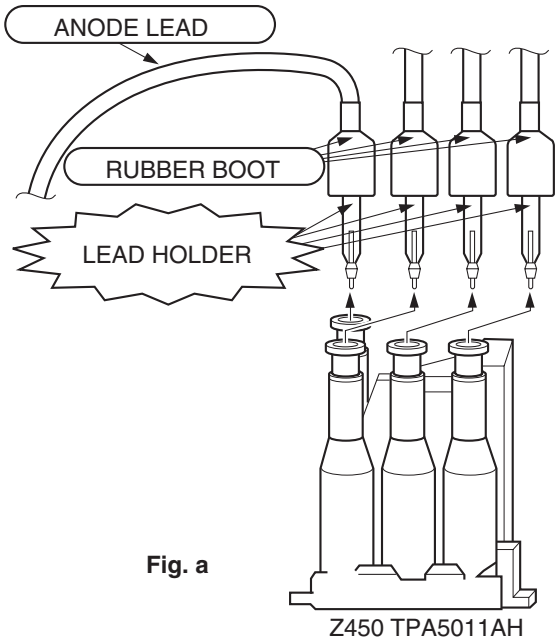


Fig. a

1. When replacing Anode Lead or Anode Cap with new one, remove Lead Holder from old lead as shown in figure below, and put it on new lead. Do not throw away Lead Holder.

NOTE : THE LEAD HOLDER IS ATTACHED TO TPA5011AH (Z450), BUT IS NOT ATTACHED TO ANODE LEAD AND ANODE CAP. RUBBER BOOT IS ATTACHED TO ANODE LEAD AND ANODE CAP.

2. Detaching Lead Holder

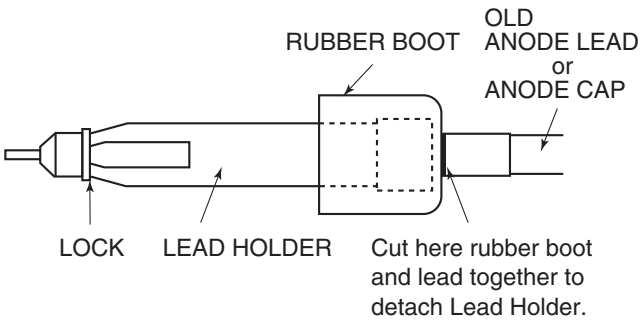


Fig. b

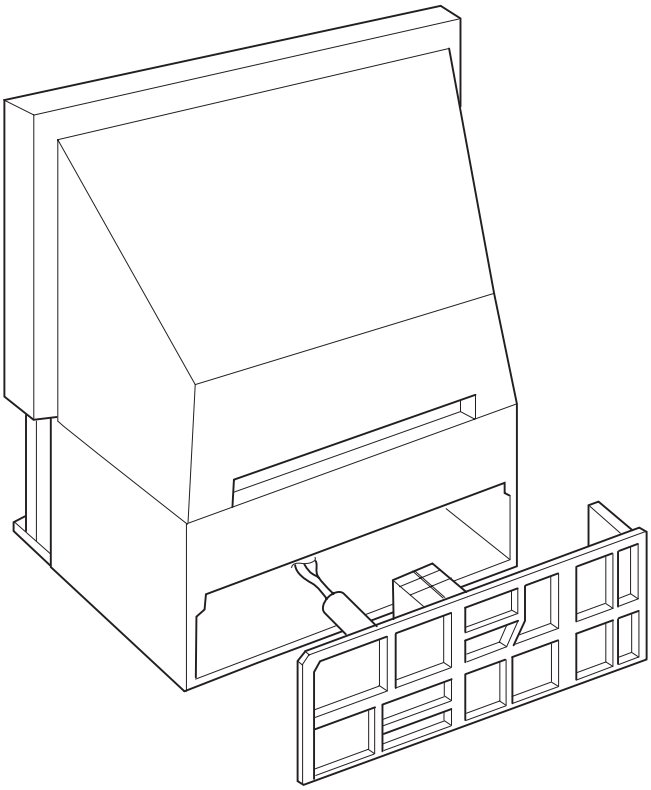
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

SERVICE POSITION

In order to assure the performance, processed wires shall be replaced after the repair work.
Work procedures are as follows:

1. Remove the back board.
2. Remove lead wires.
3. Draw out the chassis.
4. Rest the chassis against the back cabinet, chassis as shown bellow.

After repair work finished, replace it in the opposite procedure.



SERVICE MODE

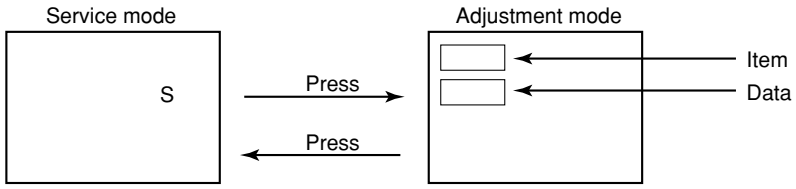
1. ENTERING TO SERVICE MODE

1) Press 🔇 button once on Remote Control.
2) Press 🔇 button again to keep pressing.
3) While pressing the 🔇 button, press MENU button on TV set.

(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. KEY FUNCTION IN THE SERVICE MODE

The following key entry during display of adjustment menu provides special functions.

Screen adjustment mode ON/OFF:	-/-- (⮌) button (on Remote)
Test signal selection :	⊖ button (on Remote)
Selection of the adjustment items :	Channel ▲/▼ (on TV or Remote)
Change of the data value :	Volume ◿ +/– (on TV or Remote)
Adjustment menu mode ON/OFF :	MENU button (on TV)
Initialization of the memory (QA02) :	CALL + Channel button on TV (▲)
Reset the count of operating protect circuit to “00”:	CALL + Channel button on TV (▼)
“RCUT” selection :	1 button
“GCUT” selection :	2 button
“BCUT” selection :	3 button
“SCNT” selection :	4 button
“COLP” selection :	5 button – – – – – Color thickness correction
“TNTC” selection :	6 button note: Displayed differently as shown below, depending on the setting of the receiving color system.
Convergence adj :	YELLOW button COLP (PAL)
Self diagnostic display ON/OFF :	9 button COLC (NTSC)
	COLS (SECAM)

CAUTION : Never try to perform initialization unless you have changed the memory IC.

4. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button in the service mode changes the adjustment items in the order of table-2. (▼ button for reverse order)

Refer to table-2 for preset data of adjustment mode.
(See SETTING & ADJUSTING DATA on page 31)

5. ADJUSTING THE DATA

1) Pressing of VOLUME ◿ +/– button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

6. EXIT FROM SERVICE MODE

1) Pressing POWER button to turn off the TV once.

■ INITIALIZATION OF MEMORY DATA OF QA02

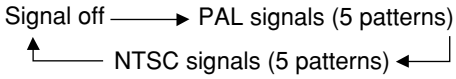
After replacing QA02, the following initialization is required.

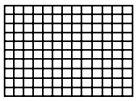
1. Enter the service mode, then select any register item.
2. Press and hold the CALL button on the Remote, then press the CHANNEL ▲ button on the TV. The initialization of QA02 has been complated.
3. Check the picture carefully. If necessary, adjust any adjustment item above. Perform “Auto tune” on the owner’s manual.

CAUTION: Never attempt to initialize the data unless QA02 has been replaced.

7. TEST SIGNAL SELECTION

1) Every pressing of ⊕ button on the Remote Control changes the built-in test patterns on screen as described below in SERVICE MODE.

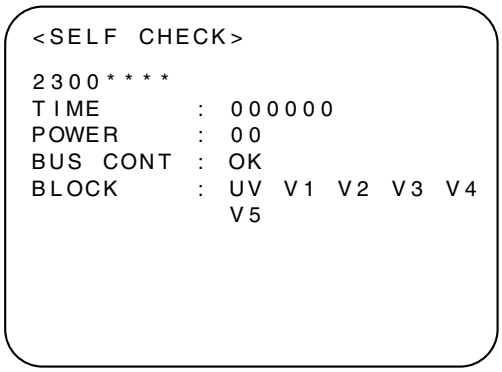


Signals	Picture
• Red raster • Green raster • Blue raster • All White	
• Black cross-hatch	

* The signals marked with ■ are not usable to display in the Test signal for some model.

8. SELF DIAGNOSTIC FUNCTION

1) Press “9” button on Remote Control during display of adjustment menu in the service mode.
   The diagnosis will begin to check if interface among IC’s are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microcomputer (QA01)
② Total hour of turn the TV on. (Unit: H)
③ Operation number of protecting circuit ----“00” is normal.
When indication is other than “00”, overcurrent apts to flow, and circuit parts may possibly be damaged.
④ BUS CONT ----“OK” is normal.
When indication shows “Q○○○ NG”, the device with the number may possibly be damaged.
⑤ BLOCK
UV : TV reception mode
V1 : VIDEO 1 input mode (→①1)
V2 : VIDEO 2 input mode (→①2)
V3 : VIDEO 3 input mode
V4 : VIDEO 4 input mode
V5 : VIDEO 5 input mode

Indicated color of mode now selected : Green and Red
Indicated color of other modes : Black

Green : Normal
Red : The microcomputer operates to provide judgement of no video signal. The red color is still indicated though the signal is input, failure may exist in input signal line including QV01.

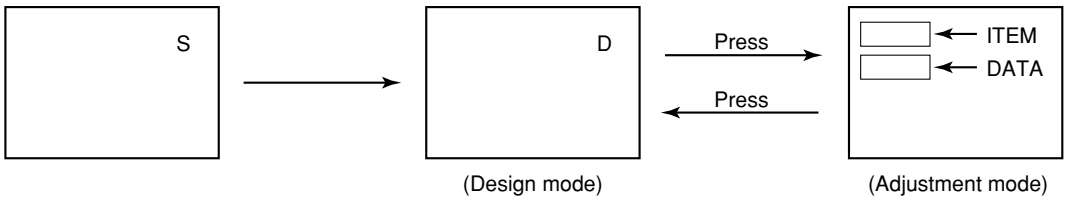
NOTE: (1) In case that "on timer" indicator is blinking with interval of 0.5 seconds; it means protecting circuit (Current limiter) is operating, and circuit components may possibly be damaged. Check related components.
(2) In case that "on timer" indicator is blinking with interval of 1 second; Protecting circuit does not operate, but a part of Bus line does not operate normally. Check Bus line.

***** The items marked with ■ are not usable to display in the SELF DIAGNOSTIC FUCTION for some model.

DESIGN MODE

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) While pressing CALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, item “OPT3" of DESIGN MODE is set to the data of the representative model of this chassis family. Therefore, because ON-SCREEN specification remains in the state of the representative of model. This model is required to reset the data of item “OPT3".

2. SELECTING THE ADJUSTING ITEMS

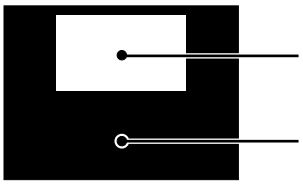
Every pressing of CHANNEL ▼ button in the design mode changes the adjustment items in the order of table-3. (▲ button for reverse order)

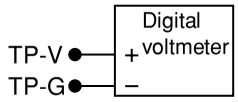
Refer to table-3 for data of design mode.
(See SETTING & ADJUSTING DATA on page 31)

3. ADJUSTING THE DATA

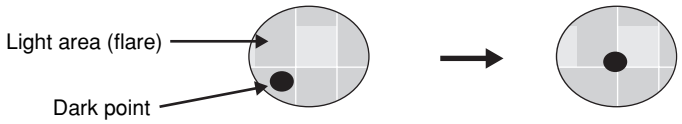
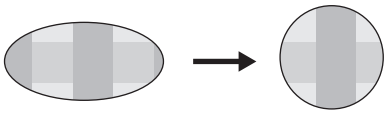
Pressing of VOLUME ▲ or ▼ button will change the value of data.

ELECTRICAL ADJUSTMENT

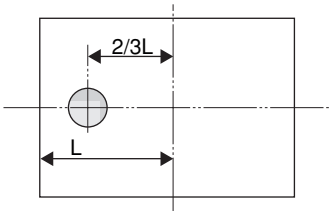
ITEM	ADJUSTMENT PROCEDURE
WIDTH (WID) (Picture size wide)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▼ button to get the picture so the left or right edges of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 11 steps. Note : Check the horizontal picture position is correct.
HEIGHT (HIT) (Picture size wide)	1. Call up the adjustment mode display, then select the item **HIT**. 2. Press the VOLUME ▼ button to get the picture so the top or bottom of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 9 steps. Note : Check the vertical picture position is correct.
WHITE BALANCE (RCUT) (GCUT) (BCUT) (RDRV) (BDRV)	Black and White pattern * There is not in the built-in test patterns. It needs to prepare the pattern generator.  High light area Adjust "RDRV" or "BDRV" to be white. Low light area Fine adjust "RCUT", "GCUT" or "BCUT" to be black. 1. Set user control to reset position. (CONTRAST → Max BRIGHTNESS, COLOR, TINT → Center.) 2. Call up the adjustment mode display, then select the item RCUT. 3. Adjust the data of items **RCUT**, **GCUT**, and **BCUT** to "40H". 4. Press the -/-- (⇄) button on Remote. (Y-MUTE : ON) 5. Gradually rotate R, G and B screen volume of FOCUS PAC clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them. (Lookin to the lens in order to check the raster.) 6. Press the -/-- (⇄) button on Remote. (Return to Normal Picture) 7. Press the ⊖ button on Remote, and select the Black and White pattern. 8. Adjust the data of items **RCUT**, **GCUT** and **BCUT** for proper white-balanced picture in low light area. 9. Adjust the data of items **RDRV** and **BDRV** for proper white-balanced picture in high light area. 10. Check the white balance in both low and high light areas. If necessary, perform again steps from 8 to 9.

Items	Names	Settings	Input signals	Measuring points	Adjusting methods	Adjusting standards
SCNT	Sub-contrast	Picture mode 1 Audio system: I	Sub-bright signal (PAL-I signal)	TP03 SIGNAL unit	1) Adjust amplitude from the pedestal level up to the white peak.	0.7 (o-p)
BRTC	Sub-bright center	Picture mode 1 WIDE mode	Sub-bright signal	Screen adjustment	1) Adjust the number of black collapsed lines of sub-bright signals. 2) Adjust after adjusting W/B, SCNT.	4 lines
COLP	Sub-color center PAL	Picture mode 1	Sub-bright signal (PAL)	TP02 SIGNAL unit	1) Adjust the amplitude of the rainbow color bar. 2) Adjust the P-P value of the upper half.	0.25 V (p-p)
COLS	Sub-color center SECAM	Picture mode 1	SECAM color bar	TP02 SIGNAL unit	1) Adjust the amplitude of the color bar.	0.52 V (p-p)
SRY	SECAM R-Y Black level		SECAM color bar	TP02 SIGNAL unit	1) Adjust so that the level of black and white signal part can be aligned with the level of H.BLK.	0 mV
SBY	SECAM R-Y Black level		SECAM color bar	TP01 SIGNAL unit	1) Adjust so that the level of black and white signal part can be aligned with the level of H.BLK.	0 mV
Screen adjustment	Screen	Factory screen adjusting mode		CRT tubular screen	1) Darken the environment as much as possible. 2) Set to factory-set screen adjusting MODE. (Y mute, DRV.CUT=40H) 3) Directly observe the surface of Cathode Ray Tube and adjust the screen VR to the point that starts lighting. 4) Make above-mentioned adjustments for each tube of G, R, and B.	Point that starts lighting
Focus adjustment	Focus	Picture mode 1	Retma signal (PAL-I) Crosshatch signal	Screen adjustment	1) Adjust to the best position by repeating electrical focus and optical focus adjustments. 2) Use the jig and shade the CRT except the axes under adjustment. 3) Make above-mentioned adjustments for each tube of G, R, and B.	For details, refer to [focus adjusting method] introduced in the next page.
RDRV BDRV	Bright part W/B	Picture mode 1 WIDE mode		Screen adjustment	1) Adjust the color temperature of the bright part (103cd/m^2).	8750k-0.002uv
RCUT BCUT	Dark part W/B	Picture mode 1 WIDE mode		Screen adjustment	1) Adjust the color temperature of the dark part (17cd/m^2).	8750k-0.002uv
VCEN	Midpoint voltage voltage adjustment	Picture mode 1 DFS-100 Hz	Phillips Pattern	Between TP-V and TP-G	1) Connect a digital voltmeter between TP-V and TP-G and adjust it to 0 mV by VCEN data. (No designation on polarity of degital voltmeter) 	0 ± 10mV

Green Alignment/Astigmatic Adjustments

Adjustment items	Adjusting methods
Alignment Adjustment	Procedures (Make this adjustment by using a lens cap. This adjustment should be made after adjusting the electrical focus nd lens focus rough and making a Centering Adjustment.) 1. Set the G monochrome by a lens cap. 2. Cancel the magnetic fields of bipolar, tetrapolar, hexapolar magnets. 3. Receive the image of dot pattern which is generated by the signal generator. (White dot, Black background) 4. Turn the focus VR slightly left from the just focus point. 5. Adjust the bipolar magnet so that the dark brightness point is center of the light bright area. 6. Make a just focus adjustment. 7. Receivethe image of Philips pattern, and re-adjust the centering. 8. Repeat the above items 4 to 7. Re-adjust those items if necessary. 
Astigmatic Adjustment	Procedures (Make this adjustment by using a lens cap.) 1. Set G monochrome by a lens cap. 2. Input the dot pattern (white dot and black backgroud). 3. Turn the Focus VR slightly right from the just focus point. 4. Adjust the tetrapolar magnet so that the fuzzy dot is a perfect circle. 5. Check and confirm that the shapes of flare are almost the same circle even if turing the VR focus right and left. 6. Make a just focus adjustment. 7. Affix the magnet with adhesives.  Make adjustment so that the dot is a perfect circle.

Adjustment items	Adjusting methods
Focus adjustment	(Conditions) - User adjustment: Dynamic mode, Cinema mode - To be performed after centering magnet adjustment. - Signal : Lens: R .... Crosshatch (PAL) G .... Crosshatch (PAL) B .... Crosshatch (PAL) Electrical focus : R .... Crosshatch (PAL) G .... Crosshatch (PAL) B .... Crosshatch (PAL) (Adjustment) 1. Common item 1) Make coarse adjustments in advance on the lens focus and electrical focus of each R, G, and B tube. 2. G adjustment 1) Set to the G monochrome by lens cap. 2) Receive the image of crosshatch. 3) Adjust the G electric focus. Adjust the G electrical focus by the focus volume of focus block (Z410) so that the screen center will come to optimum focus. (Although the G electrical focus is to be adjusted to allow the scanning lines in the center of the screen to be seen most clealy, if G alignment and astigmatism are inferior with the appearance of vertical and horizontal flares in the center of and around the screen and if the lines become thicker, adjust to the best point observing the entire screen.) 4) Adjust the G lens focus. Keep an eye on the center of the crosshatch pattern and adjust so that the screen center will become clear. As a rough guide to decrease unevenness, adjust so that red flares on both sides of the crosshatch line will come to 1mm in thickness. 5) Repeat 3, 4, and attempt to further improve the focus quality.

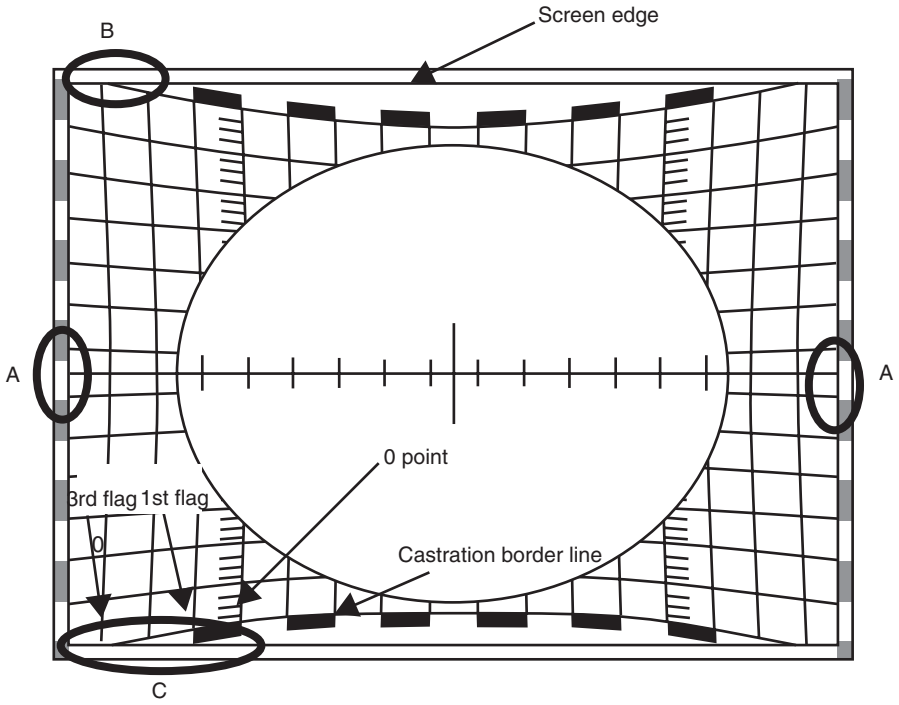
Adjustment items	Adjusting methods
Focus adjustment	Concerning items 1), 2), 3), and 5) of G adjustment, these are common to the ones on the previous page. 3. R adjustment 1) Set to the R monochrome by lens cap. 2) Receive the image of the internal crosshatched pattern. 3) Adjust the R electrical focus. Adjust by focus volume of the focus block (Z410) so that the screen center will come to optimum focus. 4) Adjust the R lens focus. Adjust so that the screen center will become the best. 5) Repeat 3, 4, and attempt to further improve the focus quality. 4. B adjustment 1) Set to the B monochrome by lens cap. 2) Receive the image of internal crosshatch pattern.  3) Adjust the B electrical focus. Adjust the B electrical focus by using the focus VR on the focus block (Z410) so that the scanning line is the most distinct at the point of 2/3L left side from the screen center. 4) Adjust the B lens focus. Pay attention to the border of the blue line and the black (background) in the vicinity of the screen center. First of all, make coarse adjustments of the lens, and move the lens adjusting screw to the right at the point being considered as the best focus. Then, the lines of the border become clear. Check and confirm under the circumstance that a flare appears. On the contrary, if the lens adjusting screw is moved to the left from the situation, the flare will disappear, and at this point you will find a point from which the borderline itself begins to go out of focus. Adjust to the very point where the focus begins to go out.

Items	Names	Settings	Input signals	Measuring points	Adjusting methods	Adjusting standards
Adjustment of screen position		Picture model DFS-100Hz	Philips Pattern (PAL-I)	Screen adjustment	1) Adjust the vertical and horizontal screen positions using the centering magnet so that the center cross mark of the dummy screen and the cross mark of the Phillips pattern can overlap precisely. This will be carried out individually for the tubes of R, G, and B. (Caution) Do not move HPOS and VPOS data.	
HIT VLIN	Vertical amplitude adjustment PAL WIDE	Picture model DFS-100Hz CMUT-ON	Philips Pattern (PAL-I)		1) Shorten the vertical amplitude by HIT data until the upper and lower flags appear on the screen. 2) The amplitude should be balanced vertically. If not, adjust VLIN. When VLIN is adjustd, adjust the screen position by the centering magnet. 3) Subsequently, lengthen the vertical amplitude by HIT data until either upper or lower flag end is aligned with the screen end.	
WID	Horizontal amplitude adjustment	Picture mode 1 DFS-100Hz CMUT-ON	Philips Pattern (PAL-I)	Screen adjustment	1) Lower the WID data in the beginning, and shorten the amplitude horizontally until the left and right flags appear completely. 2) Lengthen the horizontal amplitude by WID data so that the number of register marks will come to 7 in total (each 3.5 flags at the left and right sides).	7 ± 1 flags
CHIT	Vertical amplitude adjustment	Picture mode 1 DFS-120Hz mode 16:9 mode CMUT-ON	Philips Pattern (PAL-I)	Screen adjustment	1) Adjust the upper line of Philips Pattern is to be fited in with 16:9 screen edge.	
HIT2 LIN2	Vertical amplitude adjustment NTSC	Picture mode 1 DFS-120Hz	Monoscope signal	Screen adjustment	1) The upper first one on the screen is to be hidden by the mask. 2) The amplitude should be balanced vertically.	
WID2	Horizontal amplitude adjustment NTSC	Picture mode 1 DFS-120Hz mode	Monoscope signal	Screen adjustment	1) Adjust the 2.5th left register mark to the left screen edge.	
CHIT2	Vertical amplitude adjustment NTSC	Picture mode 1 DFS-120Hz mode 16:9 mode	Monoscope signal	Screen adjustment	1) Adjust the upper line of Philips Pattern is to be fited in with 16:9 screen edge.	

Deflection amplitude setting for 50PH36P (HIT/WID adjusting method under muted convergence)

∗ Green pattern under the muted convergence

(DFS-100Hz)



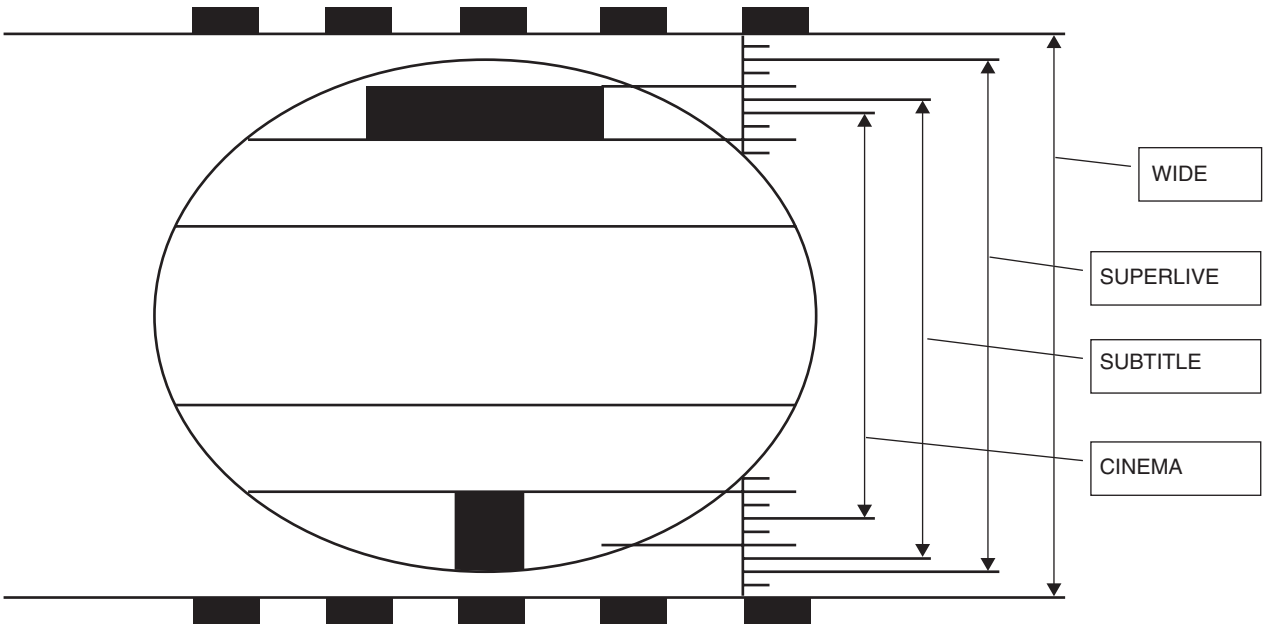
Horizontal amplitude: Left and right register marks of Philips pattern C + D = **7** (See A of the upper figure.)

Vertical amplitude: The point where the center between 1st and 2nd vertical line outer from the upper and lower register marks of Philips pattern is overlapped with flags contacts the screen edge. If the amplitude is uneven horizontally and vertically, make HIT adjustment so that B shown in the upper left of the upper figure comes to contact the screen edge.

Next, pay attention to the C point. Check and confirm that the castration border line contacts through 2nd line to 4th line outer from the lower register mark.

Vertical amplitude adjusting method for PAL/100Hz mode

1 Make adjustment on the basis of the upper screen.
2 Do not make VLIN adjustment for SUPERLIVE.
3 Screen adjusting range: ±1



CONVERGENCE ADJUSTMENT

1. SCREEN ADJUSTMENT

The adjustment is carried out on six screens:
① PAL 100Hz Wide/4:3
② PAL 100Hz Super live
③ PAL 100Hz Cinema
④ PAL 100Hz Subtitle/14:9
⑤ PAL Progressive all
⑥ NTSC Progressive all

When making the adjustments, feed an external signal to make a synchronization.

Note:

The convergence circuit is a circuit to eliminate screen distortion and can not make a drastic correction such as to correct entire screen size. An excessive correction may actuate the protection circuit. So a care will be necessary.
Before proceeding to the adjustment for each screen, always perform the adjustments for vertical size (HIT) and horizontal size (WID) with the main deflection data changed.

The menu order is 1~6 .... when the input signl is PAL. (In this case item 7 is not selectable)

The menu order is 7 .... when the input signal is NTSC. (In this case, item 1~6 are not selectable)

1-1. Entering the Adjustment Menu

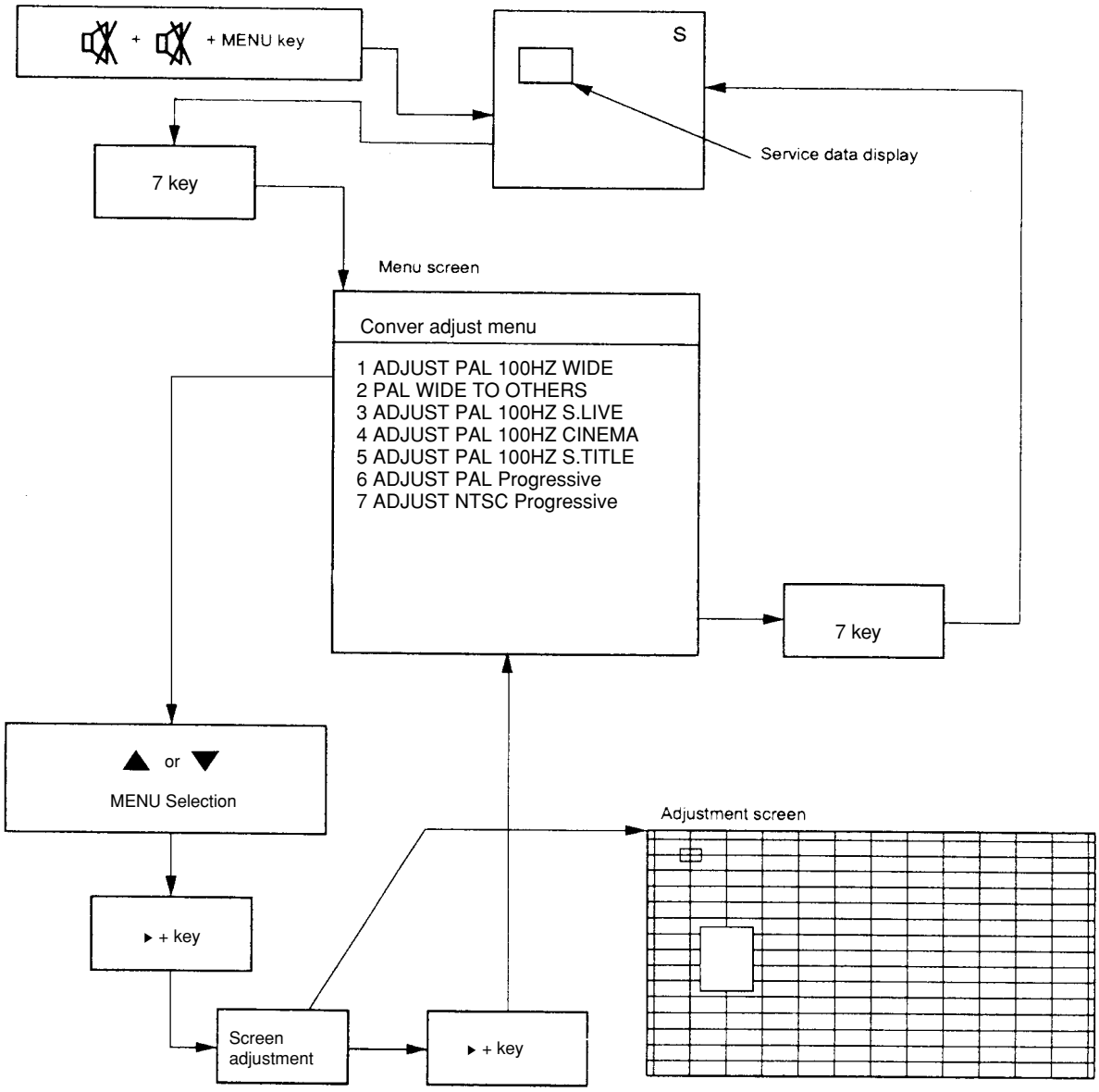
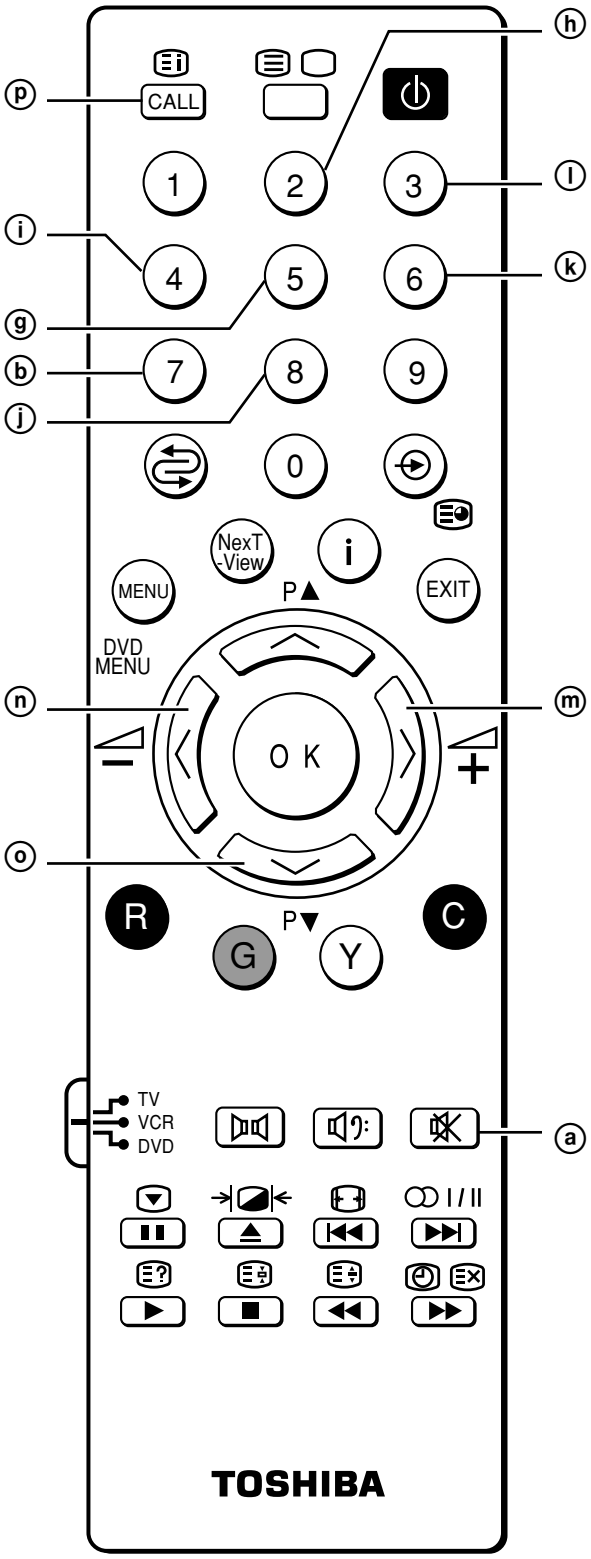


Fig. 1

1-2. Remote Control Key



ⓐ 🔇 key ..... Push this key twice and the set console menu key to enter the service mode.
ⓑ 7 key ..... Push 7 key to enter and cancel the convergence menu.
ⓖ 5 key ..... Cursor shift / data change mode change-over.
ⓗ 2 key ..... Cursor up / adjusting point up.
ⓘ 4 key ..... Cursor left / adjusting point left
ⓙ 8 key ..... Cursor down / adjusting point down
ⓚ 6 key ..... Cursor right / adjusting point right
ⓛ 3 key ..... Cursor colour change (Adjusting colour selection).
ⓜ ▶ key ..... Execution key on convergence menu.
ⓝ ▲ key ..... Up key on convergence menu.
ⓞ ▼ key ..... Down key on convergence menu.

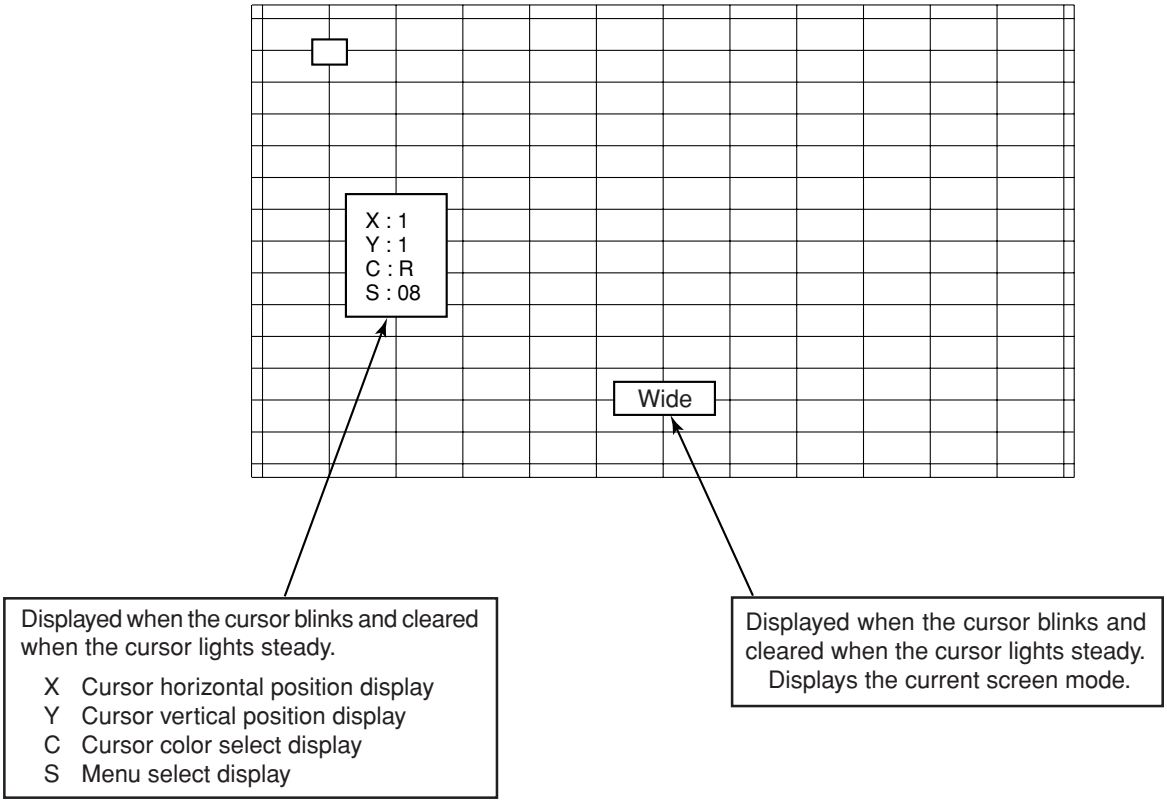
Fig. 2

1-3. Adjusting Screen

1) Adjusting menu

NO	Item	Description
1	ADJUST PAL 100 Hz WIDE	Used for manual adjustment of PAL 100Hz WIDE screen. (This item is selectable when input-source is PAL)
2	PAL WIDE TO OTHERS	Automatically converted from the PAL 100Hz WIDE screen data to the data of the other screens; PAL 100Hz Super live, PAL 100Hz Cinema, PAL 100Hz Subtitle, PAL Progressive, NTSC Progressive. Re-adjustment is required for getting fine conversion on each screens by following menu. Note: This menu overwrites current data of these modes. If the convergence-conditions of these modes are good, don't execute this menu. (This item is selectalble when input-source is PAL)
3	ADJUST PAL S.LIVE	Used for manual adjustment of the PAL Super live screen. (This item is selectable when input-source is PAL)
4	ADJUST PAL CINEMA	Used for manual adjustment of the PAL Cinema screen. (This item is selectable when input-source is PAL)
5	ADJUST PAL S.TITLE	Used for manual adjustment of the PAL Subtitle screen. (This item is selectable when input-source is PAL)
6	ADJUST PAL Progressive	Used for manual adjustment of the PAL Progressive screen. (This item is selectable when input-source is PAL)
7	ADJUST NTSC Progressive	Used for manual adjustment of the NTSC Progressive screen. (This item is selectable when input-source is NTSC)

2) Adjustment Screen


X : 1
Y : 1
C : R
S : 08
Wide
Displayed when the cursor blinks and cleared when the cursor lights steady.
X Cursor horizontal position display
Y Cursor vertical position display
C Cursor color select display
S Menu select display
Displayed when the cursor blinks and cleared when the cursor lights steady.
Displays the current screen mode.

3) Adjustment Sequence

When the initial screen opens, X = 1, Y = 1, C = R and S = [Select Menu] are displayed as the defaults. The cursor can now be moved up, down, left and right using the (2), (8), (4) and (6) keys of the remote control. Select the desired adjustment and press the (5) key; the cursor will light steady and the screen display will be cleared. Again press the (2), (8), (4) and (6) keys of the remote control to adjust the shape of the screen. When adjustment has been completed, press the (+) key to return to the Adjustment Menu. When all of the screen adjustments have been completed, turn off the main power supply of the set to reset the menu.

2. Case Study

In many cases, color matching problems can be solved by returning the HIT and WID data for main deflection to the initial adjustment values. Convergence cannot be re-adjusted in the following cases.

2-1 When the CRT has been replaced

Main deflection re-adjustment and color matching are necessary when the CRT has been replaced. Use the following procedure.

1. Replace the blue and red CRTs.
2. Perform the blue and red yoke horizontal adjustments in relation to the green CRT. Press the yokes and speed modulation coils + alignments onto the CRTs and fasten after making sure that there are no gaps.
3. Adjust the blue and red alignments (refer to the detailed alignment adjustment item).
4. Use centering magnets to center the blue and red CRTs in relation to the green CRT.
5. Adjust the main deflection HIT and WID data, using the most accurate location in relation to the green as data.
6. Use convergence to match the colors for each screen. Green will not work at this time.
7. When the convergence adjustments have been completed for all screens, then replace the green CRT.

Repeat the procedures in steps 2 - 5 for the green CRT but this time use convergence to match the colors using red and blue as reference.

2-2 When replacing the convergence unit

Generally, all of the screens must be re-adjusted when the convergence unit is replaced, but the process can be greatly shortened by using the following method.

1. Replace the memory (Q173, Q174, Q175) of the new unit (ZC01) with the memory (Q173, Q174, Q175) of the defective unit (ZC01). This makes it possible to quickly reproduce the previous screen status when installed in the set.
2. Install the new unit with the old memory in the set and turn on the power. The entire screen will move linearly in either the vertical or horizontal direction.
3. Use centering magnets to re-adjust the green, red and blue centers.
4. There is possibility of color mismatching or differences in screen size when the various screens are checked. In such case, adjust the main deflection and apply a slight amount of convergence color matching.

2-3 When none of the above cases apply (rare case)

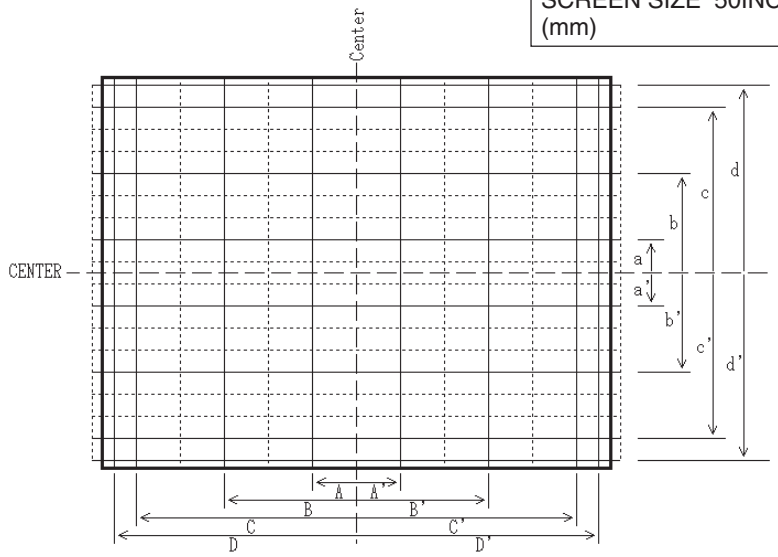
An unexpected situation or major operational error, etc., could be considered but it is recommended that all screens be matched starting from the beginning. If the initial positions of the centering magnets are unknown, disconnect the connectors for the convergence sub-yoke outputs one at a time, adjust the CRT centering and then start the following adjustments

1. Connect PAL signal.
2. Make sure that there is plenty of room for the static cross convergence to be moved left, right, up and down. If sufficient space is not available, move to an appropriate location and then re-adjust the centering.
3. Enter the convergence adjustment mode and call out the menu.
4. Select 1. ADJUST PAL 100Hz WIDE and adjust the PAL mode Wide screen manually in accordance with the dimension diagram.
5. When the PAL 100Hz WIDE screen adjustment has been completed, return to the Main Menu and select 2. PAL Wide to others.
   The screen will change automatically and all the other screens will be created automatically.
6. Next, select 3. ADJUST PAL 100Hz S.LIVE in accordance with the dimension diagram.
7. Next, select 4. ADJUST PAL 100Hz CINEMA and fine adjust to remove any Cinema screen distortion.
8. Next, select 5. ADJUST PAL 100Hz S.TITLE and fine adjust to remove any Subtitle screen distortion.
9. Next, select 6. ADJUST PAL Progressive and fine adjust to remove any PAL Progressive screen distortion.
10. Connect NTSC signal.
11. Next, select 7. ADJUST NTSC Progressive and fine adjust to remove any NTSC Progressive screen distortion.

All of the screens can be adjusted with the above process but make every effort not to change the factory data unless absolutely necessary. Try not to change the convergence data any more than necessary.

PAL DFS, Progressive
(4:3 mode)

SCREEN SIZE 43INCH : 874 × 655
SCREEN SIZE 50INCH : 1014 × 760
(mm)



GEOMETRY

1) VERTICAL

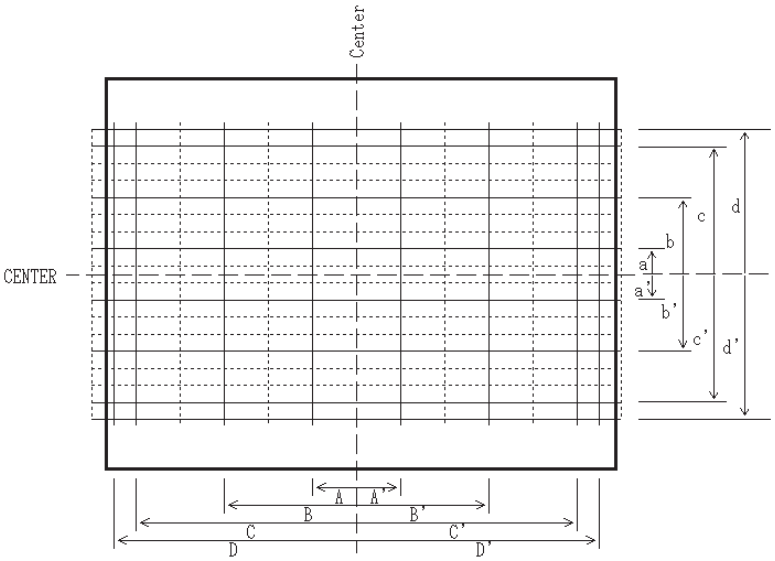
INCH	a, a'	b, b'	c, c'	d, d'
43	55.0	164.5	274.0	310.5
50	63.5	191.0	318.0	360.0

2) HORIZONTAL

INCH	A, A'	B, B'	C, C'	D, D'
43	74.5	223.5	372.5	428.5
50	86.3	259.0	431.5	496.0

REMARKS

PAL DFS, Progressive
(16:9 mode)



GEOMETRY

1) VERTICAL

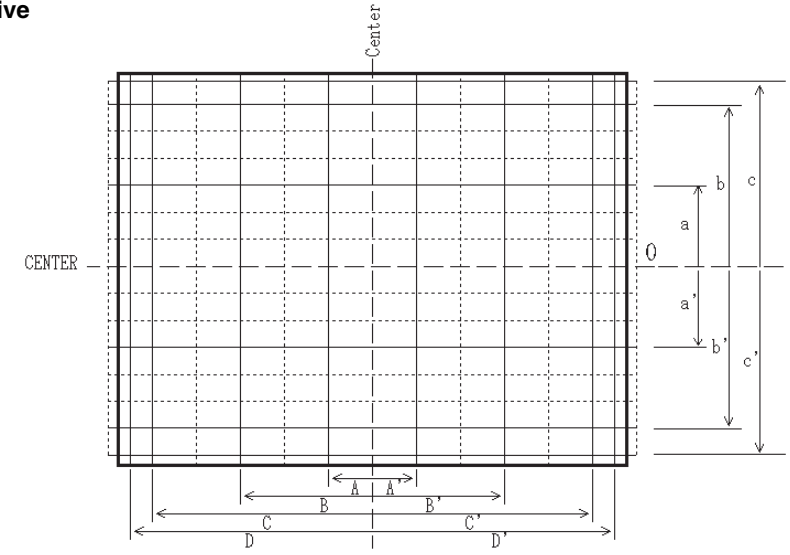
INCH	a, a'	b, b'	c, c'	d, d'
43	41.3	123.4	205.5	232.9
50	47.9	143.2	238.4	270.2

2) HORIZONTAL

INCH	A, A'	B, B'	C, C'	D, D'
43	74.5	223.5	372.5	428.5
50	86.3	259.0	431.5	496.0

REMARKS

NTSC DFS, Progressive
(4:3 mode)



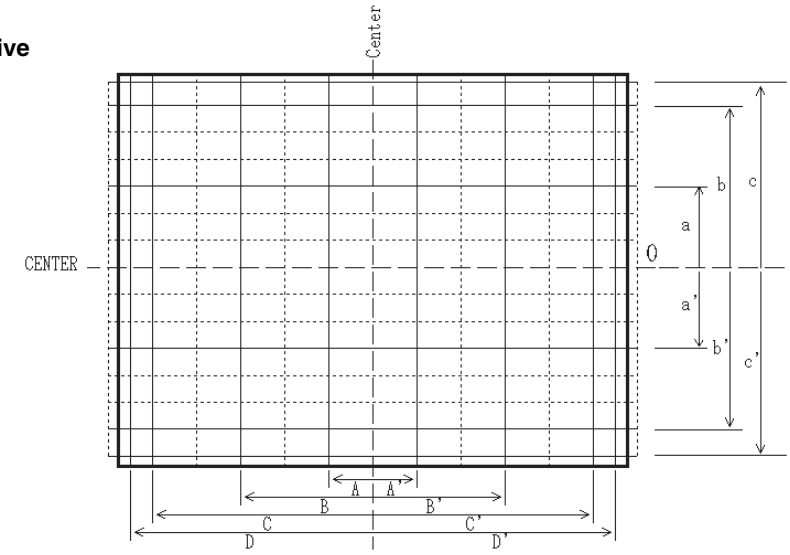
GEOMETRY

1) VERTICAL

INCH	a, a'	b, b'	c, c'
43	131.0	262.0	306.0
50	151.5	303.0	353.5

REMARKS

NTSC DFS, Progressive
(16:9 mode)



GEOMETRY

1) VERTICAL

INCH	a, a'	b, b'	c, c'
43	98.3	196.5	229.5
50	113.6	227.3	265.2

REMARKS

CIRCUIT CHECKS

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be measured below (B) kV.

   Refer to table-1 for high voltage (B).
   (See SETTING & ADJUSTING DATA on page 29)
4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

CAUTION:
When the following parts fail, check the High Voltage after replacing.

Location No.	Name	Name
T461	Flyback Trans.	TFB3093BH
C440	Capacitor	1000pF, ±3%
C443	Capacitor	4700pF, ±3%
C444	Capacitor	4700pF, ±3%
C467	Capacitor	3900pF, ±3%
C468	Capacitor	10000pF, ±3%
C4671	Capacitor	4700pF, ±3%

ANODE VOLTAGE MEASURING METHOD

CAUTION: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b on page 8.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order.
   After reconnecting, tug on the cable to check that it is secure.

CHAPTER 2 SPECIFIC INFORMATIONS

SETTING & ADJUSTING DATA

[SAFETY INSTRUCTIONS]

		50PH36P
HIGH VOLTAGE AT ZERO BEAM:	(A)	29.8 kV
MAX HIGH VOLTAGE:	(B)	31.0 kV
AC VOLTAGE	(C)	220~240 V

Table-1

[SERVICE MODE]

ADJUSTING ITEMS AND DATAS IN THE SERVICE MODE:

Item	Adjustment	Reference data
RCUT	R CUTOFF (B/W)	40H
GCUT	G CUTOFF (B/W)	40H
BCUT	B CUTOFF (B/W)	40H
RDRV	R DRIVE	40H
BDRV	B DRIVE	40H
CNTX	SUB CONTRAST MAX	7FH
BRTC	SUB BRIGHT CEN	80H
COLC	SUB COLOR CEN NTSC	02H
TNTC	SUB TINT CEN	1EH
COLP	SUB COLOR CEN PAL	0CH
COLS	SUB COLOR CEN SECAM	0CH
COLD	SUB COLOR CEN DTV	48H
SCNT	SUB CONTRAST	0FH
SRY	SECAM R-Y	07H
SBY	SECAM B-Y	04H

Item	Adjustment	Reference data
HPOS	50Hz H-POSITION	34H
VPS	V-CENTERRING	40H
HIT	HEIGHT	41H
VLIN	V-LINEARITY	0FH
VSC	V-S CORRECTION	2EH
VCP	V-COMPENSATION	05H
WID	PICTURE WIDTH	41H
PARA	E-W PARABOLA	1EH
CNR	E-W CORNER	16H
TRAP	TRAPEZIUM	51H
HCP	H-COMPENSATION	00H
VFC	V-F CORRECTION	08H
VCEN	V-POSITION (RASTER)	83H

Table-2

[DESIGN MODE]

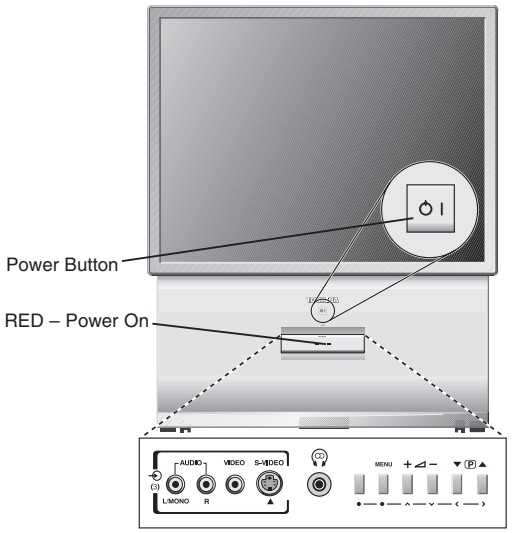
ADJUSTING ITEMS AND DATAS IN THE DESIGN MODE:

Item	Name of adjustment	Preset Data	50PH36P	Remarks
OPT0	OPTION 0	80H	←	
OPT1	OPTION 1	4AH	←	
OPT2	OPTION 2	A0H	←	01h
OPT3	OPTION 3	00H	←	
OPT4	OPTION 4	82H	←	
OPT5	OPTION 5	8FH	←	

Table-3

LOCATION OF CONTROLS (Representative: 50PH36P)

Front



Using the controls and connections

To alter the volume press – ◿ +.

To alter the programme position press ▼ Ⓟ ▲ .

Press **MENU** and ‹, ›, ˇ or ^ to control the sound and picture options.

Press **MENU** to finish.

Before connecting any external equipment, turn off all main power switches.

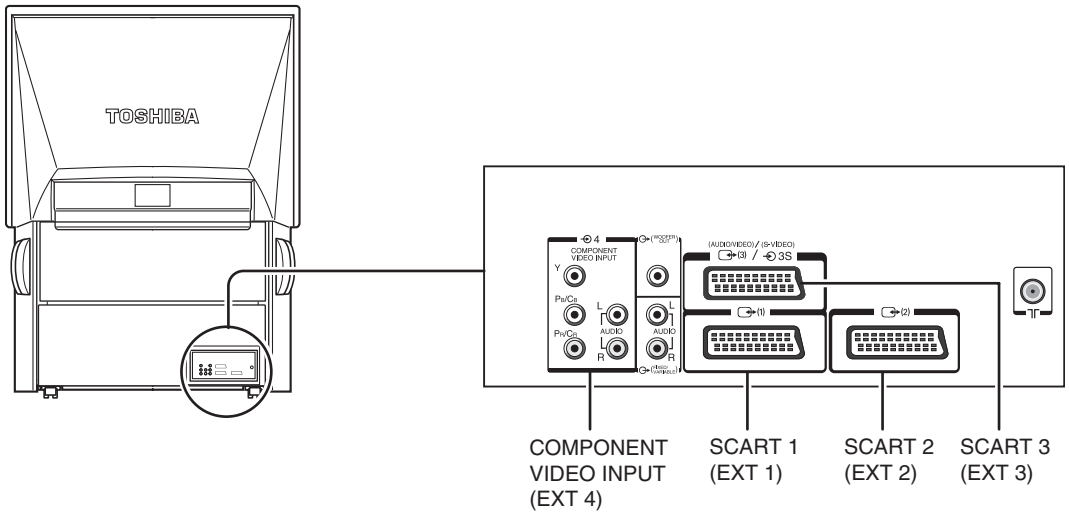
When connecting mono sound equipment to **Input 3**, connect the audio output of the equipment to the L/Mono socket on the TV.

To select the Inputs, press ⊕ until the display shows ***EXT3*** or ***EXT3S*** as described.

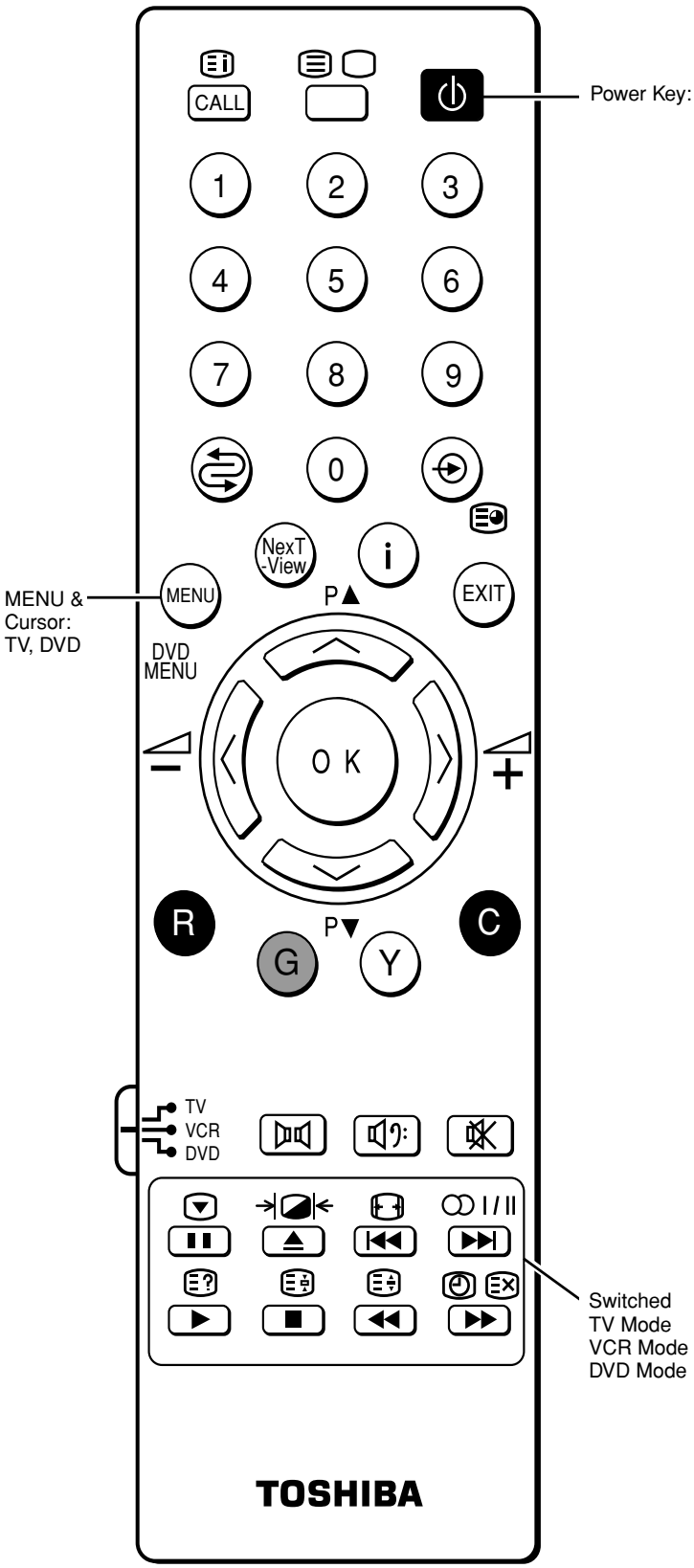
Please always refer to the owner's manual of the equipment to be connected for full details.

Please note: Inserting the headphone jack will mute the sound from all speakers.

Back



Remote Controller

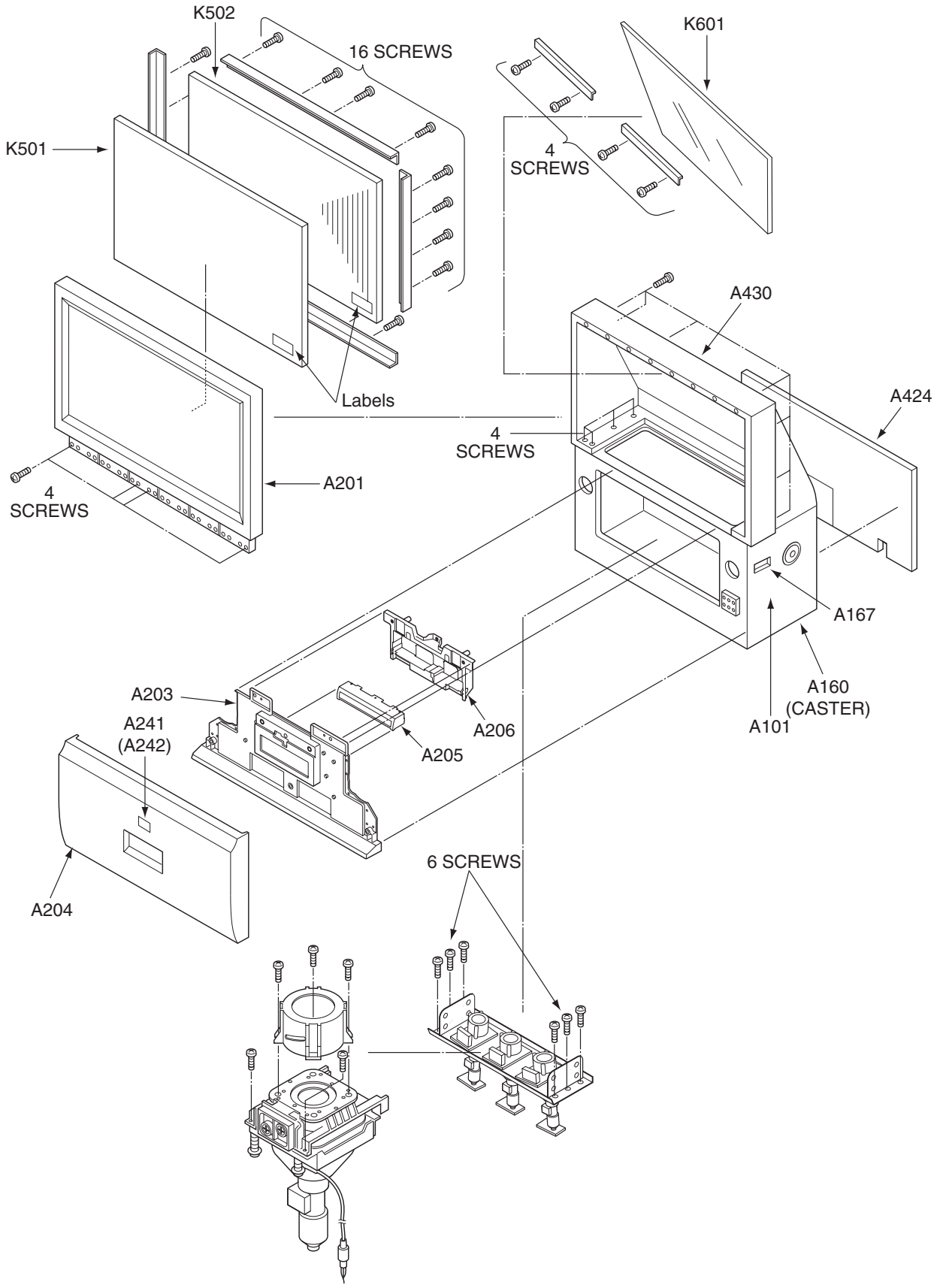


1. TEXT Sub Function
   <HOLD, REVEAL, F-T-B, TIME/TXCL, SUB PAGE>
   ---------- Only TV mode operation

2. VCR & DVD Common
   <Power, Play, Stop, Pause, Eject,
   FF, REV, Skip - FWD, Skip - REV>

3. Key Name (by special characters)
   ---------- Power ON - Stanby
   ---------- TEXT INDEX
   ---------- TEXT / TV
   ---------- VIDEO INPUT
   ---------- SELECTABLE PICTURE
   ---------- MUTE
   ---------- VOLUME +, –
   ▲P▼ ---------- POSITION(CH.) Up/Down
   ---------- Size
   ---------- STILL PICTURE
   ---------- Sub Woofer
   ---------- SURROUND
   I/II ---------- Stereo Bilingual
   ---------- Previous Ch.
   i ---------- INFO.

MECHANICAL DISASSEMBLY (For 50PH36P)



CHASSIS AND CABINET REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE “X-RAY RADIATION PRECAUTION”, “SAFETY PRECAUTION” AND “PRODUCT SAFETY NOTICE” ON PAGE 3 OF THIS MANUAL.

CAUTION: The international hazard symbols “⚠” in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE . Do not degrade the safety of the receiver through improper servicing.

NOTICE:

- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

ABBREVIATIONS:

Capacitors	CD	:	Ceramic Disk	PF	:	Plastic Film	EL	: Electrolytic
Resistors	CF	:	Carbon Film	CC	:	Carbon Composition	MF	: Metal Film
	OMF	:	Oxide Metal Film	VR	:	Variable Resistor	FR	: Fusible Resistor

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Models : 50PH33P

Location No.	Parts No.	Description	Block
CAPACITORS			
C101	24796479	ELECTROLYTIC, 35V 4.7UF M	
C102	24793221	ELECTROLYTIC, 10V 220UF M	
C103	24109102	CERAMIC CHIP, 50V B 1000PF K	
C104	24797100	ELECTROLYTIC, 50V 10UF M	
C106	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C107	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C109	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C121	24794101	ELECTROLYTIC, 16V 100UF M	
C122	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C123	24591224	PLASTIC FILM, 50V 0.22UF J	
C205	24797229	ELECTROLYTIC, 50V 2.2UF M	
C206	24794100	ELECTROLYTIC, 16V 10UF M	
C271	24797229	ELECTROLYTIC, 50V 2.2UF M	
C291	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C301	24503053	PLASTIC FILM, 63V 1UF J	
C302	24669010	ELECTROLYTIC, 50V 1UF M 3A	
C303	24503053	PLASTIC FILM, 63V 1UF J	
C306	24109102	CERAMIC CHIP, 50V B 1000PF K	
C307	24503051	PLASTIC FILM, 63V 0.68UF J	
C308	24109123	CERAMIC CHIP CK73B 50V 1200	
C309	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C310	24503049	PLASTIC FILM, 63V 0.47UF J	
C311	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C312	24109332	CERAMIC CHIP, 50V B 3300PF K	
C314	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C315	24073042	ELECTROLYTIC, 16V 1000UF M 3A	
C316	24073042	ELECTROLYTIC, 16V 1000UF M 3A	
C320	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C321	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C323	24109473	CERAMIC CHIP, 25V B 0.047UF K	
C324	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C325	24503045	PLASTIC FILM, 63V 0.22UF J	
C327	24092753	CERAMIC CHIP, 10V B 0.22UF K	
C328	24082260	PLASTIC FILM, 100V 4700PF J	
C330	24085946	ELECTROLYTIC, NONPOLAR, 16V 10	
C332	24073091	ELECTROLYTIC, 50V 220UF M 3A	
C333	24693473	PLASTIC FILM, 100V 0.047UF J	
C334	24109471	CERAMIC CHIP, 50V B 470PF K	
C338	24666330	ELECTROLYTIC, 16V 33UF M 3A	
C340	24073036	ELECTROLYTIC, 16V 33UF M 3A	
C350	24073057	ELECTROLYTIC, 25V 1000UF M 3A	

Location No.	Parts No.	Description	Block
C362	24109153	CERAMIC CHIP, 50V B 0.015UF K	
C370	24073082	ELECTROLYTIC, 50V 2.2UF M 3A	
C371	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C401	24214332	CERAMIC DISC, 500V B 3300PF K	
C402	24214391	CERAMIC DISC, 500V B 390PF K	
C403	24073050	ELECTROLYTIC, 25V 22UF M 3A	
C405	24503042	PLASTIC FILM, 63V 0.12UF J	
C412	24503192	PLASTIC FILM, 400V 0.15UF J	
C415	24092478	CERAMIC DISC, 2KV B 470PF K	
C416	24676220	ELECTROLYTIC, 100V 22UF M 3A	
C417	24503141	PLASTIC FILM, 250V 1.5UF K	
C419	24109331	CERAMIC CHIP, 50V B 330PF K	
C423	24503142	PLASTIC FILM, 400V 0.27UF J	
C425	24503142	PLASTIC FILM, 400V 0.27UF J	
C426	24211222	CERAMIC DISC, 2KV B 2200PFK	
C432	24567333	PLASTIC FILM, 50V 33000PF J	
C440	24503059	PLASTIC FILM, 1800VH 1000PF H	
C443	24503099	PLASTIC FILM, 1800VH 4700PF H	
C444	24503099	PLASTIC FILM, 1800VH 4700PF H	
C445	24828473	PLASTIC FILM, 200V 0.047UF J	
C446	24073120	ELECTRPLYTIC, 250V 33UF, 250YX	
C448	24073118	ELECTROLYTIC, 160V 33UF M	
C449	24214221	CERAMIC DISC, 500V B 220PF K	
C460	24073120	ELECTRPLYTIC, 250V 33UF, 250YX	
C463	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C464	24503343	PLASTIC FILM, 100V 3.3UF K	
C467	24820392	PLASTIC FILM, 630V 3900PF J	
C468	24820103	PLASTIC FILM, 630V 0.01UF J	
C470	24503343	PLASTIC FILM, 100V 3.3UF K	
C481	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C482	24109822	CERAMIC CHIP, 50V B 8200PF K	
C501	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C502	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C503	24794470	ELECTROLYTIC, 16V 47UF M	
C504	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C505	24794470	ELECTROLYTIC, 16V 47UF M	
C506	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C507	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C508	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C509	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C511	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C512	24100104	CERAMIC CHIP, 25V F 0.1UF Z	

Location No.	Parts No.	Description	Block
C513	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C514	24794470	ELECTROLYTIC, 16V 47UF M	
C516	24105110	CERAMIC CHIP, 50V CH 11PF J	
C517	24206478	ELECTROLYTIC, 50V 0.47UF M 7L	
C519	24797479	ELECTROLYTIC, 50V 4.7UF M	
C520	24503047	PLASTIC FILM, 63V 0.33UF J	
C521	24092733	CERAMIC CHIP, 50V B 0.022UF K	
C522	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C523	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C524	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C525	24503041	PLASTIC FILM , 63V 0.1UF J	
C526	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C527	24797229	ELECTROLYTIC, 50V 2.2UF M	
C530	24206010	ELECTROLYTIC, 50V 1.0UF M 7L 3	
C531	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C532	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C533	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C534	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C536	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C537	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C538	24763221	ELECTROLYTIC, 16V 220UF M	
C539	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C540	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C541	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C542	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C543	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C544	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C545	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C546	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C547	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C548	24763101	ELECTROLYTIC, 16V 100UF M	
C549	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C551	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C552	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C553	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C554	24794101	ELECTROLYTIC, 16V 100UF M	
C555	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C556	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C557	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C563	24206010	ELECTROLYTIC, 50V 1.0UF M 7L 3	
C564	24797229	ELECTROLYTIC, 50V 2.2UF M	
C565	24797478	ELECTROLYTIC, 50V 0.47UF M	
C575	24092538	CERAMIC CHIP, 10V F 1UF Z	
C580	24794470	ELECTROLYTIC, 16V 47UF M	
C581	24794470	ELECTROLYTIC, 16V 47UF M	
C582	24794470	ELECTROLYTIC, 16V 47UF M	
C583	24794470	ELECTROLYTIC, 16V 47UF M	
C584	24794101	ELECTROLYTIC, 16V 100UF M	
C585	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C586	24794470	ELECTROLYTIC, 16V 47UF M	
C587	24794470	ELECTROLYTIC, 16V 47UF M	
C591	24105220	CERAMIC CHIP, 50V CH 22PF J	
C592	24105220	CERAMIC CHIP, 50V CH 22PF J	
C593	24105220	CERAMIC CHIP, 50V CH 22PF J	
C594	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A	
C601	24669010	ELECTROLYTIC, 50V 1UF M 3A	
C602	24669010	ELECTROLYTIC, 50V 1UF M 3A	
C603	24591102	PLASTIC FILM, 50V 1000PF J	
C604	24591102	PLASTIC FILM, 50V 1000PF J	
C605	24669100	ELECTROLYTIC, 50V 10UF M 3A	
C606	24669100	ELECTROLYTIC, 50V 10UF M 3A	
C607	24667470	ELECTROLYTIC, 25V 47UF M 3A	
C608	24667470	ELECTROLYTIC, 25V 47UF M 3A	
C609	24668101	ELECTROLYTIC, 35V 100UF M 3A	
C610	24669479	ELECTROLYTIC, 50V 4.7UF M 3A	
C612	24669102	ELECTROLYTIC, 50V 1000UF M 3A	
C613	24503042	PLASTIC FILM, 63V 0.12UF J	

Location No.	Parts No.	Description	Block
C614	24503042	PLASTIC FILM, 63V 0.12UF J	
C615	24669102	ELECTROLYTIC, 50V 1000UF M 3A	
C616	24669102	ELECTROLYTIC, 50V 1000UF M 3A	
C617	24669220	ELECTROLYTIC, 50V 22UF M 3A	
C618	24797478	ELECTROLYTIC, 50V 0.47UF M	
C619	24794471	ELECTROLYTIC, 16V 470UF M	
C621	24797220	ELECTROLYTIC, 50V 22UF M	
C622	24591103	PLASTIC FILM, 50V 0.01UF J	
C626	24797478	ELECTROLYTIC, 50V 0.47UF M	
C627	24797220	ELECTROLYTIC, 50V 22UF M	
C628	24797100	ELECTROLYTIC, 50V 10UF M	
C629	24591124	PLASTIC FILM, 50V 0.12UF J	
C631	24797479	ELECTROLYTIC, 50V 4.7UF M	
C633	24795221	ELECTROLYTIC, 25V 220UF M	
C634	24797221	ELECTROLYTIC, 50V 220UF M	
C636	24797100	ELECTROLYTIC, 50V 10UF M	
C660	24765101	ELECTROLYITC, 35V 100UF M	
C704	24232103	CERAMIC DISC, 50V F 0.01UF Z	
C705	24206479	ELECTROLYTIC, 50V 4.7UF M 7L 3	
C707	24797470	ELECTROLYTIC, 50V 47UF M	
C712	24797470	ELECTROLYTIC, 50V 47UF M	
C713	24790470	ELECTROLYTIC, 160V 47UF M	
C715	24214472	CERAMIC DISC, 500V B 4700PF K	
C717	24214472	CERAMIC DISC, 500V B 4700PF K	
C718	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C719	24435560	CERAMIC DISC, 500V SL 56PF J	
C720	24790100	ELECTROLYTIC, 160V 10UF M	
C721	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C722	24436820	CERAMIC DISC, 50V SL 82PF J	
C726	24212102	CERAMIC DISC, 50V B 1000PF K	
C760	24797470	ELECTROLYTIC, 50V 47UF M	
C761	24212102	CERAMIC DISC, 50V B 1000PF K	
C762	24797470	ELECTROLYTIC, 50V 47UF M	
C765	24214472	CERAMIC DISC, 500V B 4700PF K	
C766	24214472	CERAMIC DISC, 500V B 4700PF K	
C767	24790470	ELECTROLYTIC, 160V 47UF M	
C768	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C769	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C770	24435560	CERAMIC DISC, 500V SL 56PF J	
C771	24790100	ELECTROLYTIC, 160V 10UF M	
C781	24212102	CERAMIC DISC, 50V B 1000PF K	
C782	24797100	ELECTROLYTIC, 50V 10UF M	
C784	24214472	CERAMIC DISC, 500V B 4700PF K	
C786	24214472	CERAMIC DISC, 500V B 4700PF K	
C787	24790470	ELECTROLYTIC, 160V 47UF M	
C788	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C789	24666470	ELECTORLYTIC, 16V 47UF M 3A	
C790	24435560	CERAMIC DISC, 500V SL 56PF J	
C791	24790100	ELECTROLYTIC, 160V 10UF M	
C792	24232103	CERAMIC DISC, 50V F 0.01UF Z	
C813	24667101	ELECTROLYTIC, 25V 100UF M 3A	
C890	24669100	ELECTROLYTIC, 50V 10UF M 3A	
C892	24669220	ELECTROLYTIC, 50V 22UF M 3A	
C893	24669100	ELECTROLYTIC, 50V 10UF M 3A	
C894	24669220	ELECTROLYTIC, 50V 22UF M 3A	
C895	24669100	ELECTROLYTIC, 50V 10UF M 3A	
C896	24669220	ELECTROLYTIC, 50V 22UF M 3A	
C901	24211102	CERAMIC DISC, 2KV B 1000PF K	
C902	24794100	ELECTROLYTIC, 16V 10UF M	
C903	24232103	CERAMIC DISC, 50V F 0.01UF Z	
C904	24436471	CERAMIC DISC, 50V SL 470PF J	
C907	24214101	CERAMIC DISC, 500V B 100PF K	
C911	24211102	CERAMIC DISC, 2KV B 1000PF K	
C912	24794100	ELECTROLYTIC, 16V 10UF M	
C913	24232103	CERAMIC DISC, 50V F 0.01UF Z	
C914	24436471	CERAMIC DISC, 50V SL 470PF J	
C915	24679330	ELECTROLYTIC, 250V 33UF M 3A	

Location No.	Parts No.	Description	Block
C917	24214101	CERAMIC DISC, 500V B 100PF K	
C921	24211102	CERAMIC DISC, 2KV B 1000PF K	
C922	24794100	ELECTROLYTIC, 16V 10UF M	
C923	24436471	CERAMIC DISC, 50V SL 470PF J	
C924	24232103	CERAMIC DISC, 50V F 0.01UF Z	
C926	24214101	CERAMIC DISC, 500V B 100PF K	
C961	24794100	ELECTROLYTIC, 16V 10UF M	
C962	24794100	ELECTROLYTIC, 16V 10UF M	
C2110	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C4401	24763221	ELECTROLYTIC, 16V 220UF M	
C4402	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C4403	24797010	ELECTROLYTIC, 50V 1UF M	
C4404	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C4405	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C4406	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C4410	24109471	CERAMIC CHIP, 50V B 470PF K	
C4412	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C4420	24073039	ELECTROLYTIC, 16V 220UF M 3A	
C4421	24591103	PLASTIC FILM, 50V 0.01UF J	
C4422	24669010	ELECTROLYTIC, 50V 1UF M 3A	
C4423	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C4425	24085958	ELEC. NONPOLAR, 50V 1UF M	
C4430	24794101	ELECTROLYTIC, 16V 100UF M	
C4451	24073038	ELECTROLYTIC, 16V 100UF M 3A	
C4465	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
C4671	24820472	PLASTIC FILM, 630V 4700PF J	
C5020	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C5030	24763101	ELECTROLYTIC, 16V 100UF M	
C5080	24206010	ELECTROLYTIC, 50V 1.0UF M 7L 3	
C5090	24763101	ELECTROLYTIC, 16V 100UF M	
C7701	24567334	PLASTIC FILM, 50V 0.33UF J	
C7704	24073053	ELECTROLYTIC, 25V 100UF M 3A	
C7705	24073053	ELECTROLYTIC, 25V 100UF M 3A	
C7706	24567334	PLASTIC FILM, 50V 0.33UF J	
C7721	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7722	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7724	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C7725	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C7726	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7727	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7729	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7730	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7732	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7733	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7735	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C7736	24073090	ELECTROLYTIC, 50V 100UF M 3A	
C7737	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7738	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7740	24105102	CERAMIC CHIP, 25V CH 1000PF J	
C7741	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7766	24667221	ELECTROLYTIC, 25V 220UF M 3A	
C7769	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C7774	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C7775	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C7776	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C7777	24092730	CERAMIC CHIP, 16V B 0.1UF K	
C7779	24105331	CERAMIC CHIP, 50V CH 330PF J	
C7780	24436471	CERAMIC DISC, 50V SL 470PF J	
C7783	24436471	CERAMIC DISC, 50V SL 470PF J	
C7788	24353101	CERAMIC DISC, 50V CH 100PF J	
C7789	24591472	PLASTIC FILM, 50V 4700PF J	
C7791	24073056	ELECTROLYTIC, 25V 470UF M 3A	
C7792	24591472	PLASTIC FILM, 50V 4700PF J	
C7793	24567104	PLASTIC FILM, 50V 0.1UF J	
C7794	24567104	PLASTIC FILM, 50V 0.1UF J	
C7796	24073091	ELECTROLYTIC, 50V 220UF M 3A	
C7797	24073094	ELECTROLYTIC, 50V 1000UF M 3A	

Location No.	Parts No.	Description	Block
C7798	24073091	ELECTROLYTIC, 50V 220UF M 3A	
C7810	24092511	CERAMIC CHIP, 50V CH 470PF B	
C7811	24105561	CERAMIC CHIP, 50V CH 560PF J	
C7812	24109103	CERAMIC CHIP, 50V B 0.01UF K	
C7817	24591222	PLASTIC FILM, 50V 2200PF J	
C7818	24591102	PLASTIC FILM, 50V 1000PF J	
C7819	24591102	PLASTIC FILM, 50V 1000PF J	
C7820	24591222	PLASTIC FILM, 50V 2200PF J	
C7821	24669010	ELECTROLYTIC, 50V 1UF M 3A	
C7822	24503053	PLASTIC FILM, 63V 1UF J	
CA03	24105180	CERAMIC CHIP, 50V CH 18PF J	
CA04	24105180	CERAMIC CHIP, 50V CH 18PF J	
CA13	24105101	CERAMIC CHIP, 50V CH 100PF J	
CA14	24105101	CERAMIC CHIP, 50V CH 100PF J	
CA15	24793470	ELECTROLYTIC CE04G 10V 47UF	
CA42	24794101	ELECTROLYTIC, 16V 100UF M	
CA43	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CA44	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CA45	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CA68	24794100	ELECTROLYTIC, 16V 10UF M	
CA69	24100103	CERAMIC CHIP, 50V F 0.01UF Z	
CA71	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CA80	24794470	ELECTROLYTIC, 16V 47UF M	
CA81	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CA83	24092538	CERAMIC CHIP, 10V F 1UF Z	
CA84	24092538	CERAMIC CHIP, 10V F 1UF Z	
CB01	24794470	ELECTROLYTIC, 16V 47UF M	
CB04	24092538	CERAMIC CHIP, 10V F 1UF Z	
CB05	24109222	CERAMIC CHIP, 50V B 2200PF K	
CB06	24105561	CERAMIC CHIP, 50V CH 560PF J	
CB07	24109332	CERAMIC CHIP, 50V B 3300PF K	
CB40	24092538	CERAMIC CHIP, 10V F 1UF Z	
CB41	24109222	CERAMIC CHIP, 50V B 2200PF K	
CB42	24105561	CERAMIC CHIP, 50V CH 560PF J	
CB43	24109332	CERAMIC CHIP, 50V B 3300PF K	
CB90	24100103	CERAMIC CHIP, 50V F 0.01UF Z	
CC04	24105220	CERAMIC CHIP, 50V CH 22PF J	
CC21	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC24	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CC25	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CC31	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC47	24212332	CERAMIC DISC, 50V B 3300PF K	
CC48	24212332	CERAMIC DISC, 50V B 3300PF K	
CC51	24232103	CERAMIC DISC, 50V F 0.01UF Z	
CC52	24232103	CERAMIC DISC, 50V F 0.01UF Z	
CC60	24109223	CERAMIC CHIP, 25V B 0.022UF K	
CC61	24109223	CERAMIC CHIP, 25V B 0.022UF K	
CC62	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC63	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC64	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC65	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC66	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC67	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC68	24109223	CERAMIC CHIP, 25V B 0.022UF K	
CC69	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC70	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC71	24109223	CERAMIC CHIP, 25V B 0.022UF K	
CC72	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC73	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC74	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC75	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC77	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC78	24109102	CERAMIC CHIP, 50V B 1000PF K	
CC91	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CC92	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CF01	24203101	ELECTROLYTIC, 16V 100UF M 7L 3	
CF02	24100104	CERAMIC CHIP, 25V F 0.1UF Z	

Location No.	Parts No.	Description	Block
CF03	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF04	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF05	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF06	24201101	ELECTROLYTIC, 6.3V 100UF M 7L	
CF08	24092538	CERAMIC CHIP, 10V F 1UF Z	
CF09	24109102	CERAMIC CHIP, 50V B 1000PF K	
CF10	24092538	CERAMIC CHIP, 10V F 1UF Z	
CF11	24109102	CERAMIC CHIP, 50V B 1000PF K	
CF12	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF13	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF14	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF15	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF16	24201101	ELECTROLYTIC, 6.3V 100UF M 7L	
CF17	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF18	24092538	CERAMIC CHIP, 10V F 1UF Z	
CF19	24109102	CERAMIC CHIP, 50V B 1000PF K	
CF20	24105220	CERAMIC CHIP, 50V CH 22PF J	
CF21	24105220	CERAMIC CHIP, 50V CH 22PF J	
CF22	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF23	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF24	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF25	24092538	CERAMIC CHIP, 10V F 1UF Z	
CF26	24109102	CERAMIC CHIP, 50V B 1000PF K	
CF27	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF28	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF29	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF30	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF31	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF32	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A	
CF33	24105330	CERAMIC CHIP, 50V CH 33PF J	
CF34	24092538	CERAMIC CHIP, 10V F 1UF Z	
CF38	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A	
CF39	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CF40	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF41	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF42	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF43	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF44	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF45	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF46	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF47	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF48	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF49	24000445	CHIP JUMPER, 1608TYPE	
CF50	24203100	ELECTORLYTIC, 16V 10UF M 7L 3A	
CF51	24109102	CERAMIC CHIP, 50V B 1000PF K	
CF52	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CF55	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CG01	24503056	PLASTIC FILM, AC275V 0.1UF M	
CG05	24092553	CERAMIC DISC, AC250V B 470PF K	
CG06	24073101	ELECTROLYTIC CE04Q 400V 47UF	
CG07	24503049	PLASTIC FILM, 63V 0.47UF J	
CG08	24214471	CERAMIC DISC, 500V B 470PF K	
CG10	24667331	ELECTROLYTIC, 25V 330UF M 3A	
CG11	24667470	ELECTROLYTIC, 25V 47UF M 3A	
CG12	24212681	CAPACIT0R, CERAMIC DISC, 50V B 680PF K	
CG13	24092333	CERAMIC DISC, 2KV 100PF K	
CG20	24676470	ELECTROLYTIC, 100V 47UF M 3A	
CG27	24666222	ELECTROLYTIC, 16V 2200UF M 3A	
CG34	24666101	ELECTROLYTIC, 16V 100UF M 3A	
CG35	24665470	ELECTROLYTIC, 10V 47UF M 3A	
CG62	24214471	CERAMIC DISC, 500V B 470PF K	
CG65	24214471	CERAMIC DISC, 500V B 470PF K	
CR01	24794470	ELECTROLYTIC, 16V 47UF M	
CR02	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CR03	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR04	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR05	24100104	CERAMIC CHIP, 25V F 0.1UF Z	

Location No.	Parts No.	Description	Block
CR06	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR07	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR08	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR09	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR12	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR13	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CR14	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CS01	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS02	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS03	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS04	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS05	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS06	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS07	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS08	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS09	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS10	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS11	24794100	ELECTROLYTIC, 16V 10UF M	
CS12	24794100	ELECTROLYTIC, 16V 10UF M	
CS13	24794100	ELECTROLYTIC, 16V 10UF M	
CS14	24794100	ELECTROLYTIC, 16V 10UF M	
CS18	24794100	ELECTROLYTIC, 16V 10UF M	
CS19	24794100	ELECTROLYTIC, 16V 10UF M	
CS20	24797478	ELECTROLYTIC, 50V 0.47UF M	
CS24	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS25	24797229	ELECTROLYTIC, 50V 2.2UF M	
CS26	24794100	ELECTROLYTIC, 16V 10UF M	
CS27	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS28	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS29	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS30	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS31	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS32	24797479	ELECTROLYTIC, 50V 4.7UF M	
CS33	24795470	ELECTROLYTIC, 25V 47UF M	
CV02	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV03	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV04	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV06	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV07	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV08	24203101	ELECTROLYTIC, 16V 100UF M 7L 3	
CV09	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV10	24794100	ELECTROLYTIC, 16V 10UF M	
CV12	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV13	24794100	ELECTROLYTIC, 16V 10UF M	
CV14	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV15	24092743	CERAMIC CHIP, 10V F 0.47UF Z	
CV23	24203101	ELECTROLYTIC, 16V 100UF M 7L 3	
CV24	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV25	24794470	ELECTROLYTIC, 16V 47UF M	
CV28	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV35	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV36	24092743	CERAMIC CHIP, 10V F 0.47UF Z	
CV39	24794101	ELECTROLYTIC, 16V 100UF M	
CV40	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV42	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV44	24092743	CERAMIC CHIP, 10V F 0.47UF Z	
CV65	24203101	ELECTROLYTIC, 16V 100UF M 7L 3	
CV66	24203101	ELECTROLYTIC, 16V 100UF M 7L 3	
CV70	24794100	ELECTROLYTIC, 16V 10UF M	
CV71	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CV72	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV73	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV74	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV75	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV76	24092538	CERAMIC CHIP, 10V F 1UF Z	
CV77	24092538	CERAMIC CHIP, 10V F 1UF Z	
CY01	24762471	ELECTROLYTIC, 10V 470UF M	

Location No.	Parts No.	Description	Block
CZ01	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CZ02	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ03	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ04	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ05	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ06	24105102	CERAMIC CHIP, 25V CH 1000PF J	
CZ07	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ08	24105390	CERAMIC CHIP, 50V CH 39PF J	
CZ38	24100104	CERAMIC CHIP, 25V F 0.1UF Z	
CZ46	24109103	CERAMIC CHIP, 50V B 0.01UF K	
CZ47	24109103	CERAMIC CHIP, 50V B 0.01UF K	
RESISTORS			
R101	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R241	24367473	CARBON FILM, 1/6W 47K OHM G	
R242	24367153	CARBON FILM, 1/6W 15K OHM G	
R243	24367123	CARBON FILM, 1/6W 12K OHM G	
R244	24366823	CARBON FILM, 1/6W 82K OHM J	
R245	24366123	CARBON FILM, 1/6W 12K OHM J	U904
R245	24011104	CHIP, METAL FILM, 1/20W 100K O	U902
R246	24366103	CARBON FILM, 1/6W 10K OHM J	
R247	24366102	CARBON FILM, 1/6W 1K OHM J	
R271	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R272	24011473	CHIP, METAL FILM, 1/20W 47K OH	
R273	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R274	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R275	24011683	CHIP, METAL FILM, 1/20W 68K OH	
R276	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R295	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R296	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R302	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R305	24322828	OXIDE METAL FILM, 1W 0.82 OHM	
R306	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R307	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R308	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R309	24366101	CARBON FILM, 1/6W 100 OHM J	
R311	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R312	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R313	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R314	24011473	CHIP, METAL FILM, 1/20W 47K OH	
R315	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R317	24011331	CHIP, METAL FILM, 1/20W 330 OH	
R318	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R319	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
R321	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R325	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R330	24000633	METAL FILM, 1/4W 10K OHM F	
R331	24000633	METAL FILM, 1/4W 10K OHM F	
R334	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R335	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R336	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R337	24321129	OXIDE METAL FILM, 1/2W 1.2 OHM	
R338	24011183	CHIP, METAL FILM, 1/20W 18K OH	
R341	24011273	CHIP, METAL FILM, 1/20W 27K OH	
R343	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R344	24382151	OXIDE METAL FILM, 1W 150 OHM J	
R345	24011100	CHIP, METAL FILM, 1/20W 10 OHM	
R346	24382391	OXIDE METAL FILM, 1W 390 OHM J	
R348	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R349	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R350	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R355	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R360	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R362	24011683	CHIP, METAL FILM, 1/20W 68K OH	
R363	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R365	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R370	24011102	CHIP, METAL FILM, 1/20W 1K OHM	

Location No.	Parts No.	Description	Block
R371	24011823	CHIP, METAL FILM, 1/20W 82K OH	
R372	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
R373	24011823	CHIP, METAL FILM, 1/20W 82K OH	
R374	24011104	CHIP, METAL FILM, 1/20W 100K O	
R375	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R377	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R378	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R379	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R381	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R382	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R383	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R384	24011683	CHIP, METAL FILM, 1/20W 68K OH	
R385	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R390	24382561	OXIDE METAL FILM, 1W 560 OHM J	
R391	24382561	OXIDE METAL FILM, 1W 560 OHM J	
R392	24382561	OXIDE METAL FILM, 1W 560 OHM J	
R403	24382101	OXIDE METAL FILM, 1W 100 OHM J	
R404	24366272	CARBON FILM, 1/6W 2.7K OHM J	
R405	24366101	CARBON FILM, 1/6W 100 OHM J	
R406	24382102	OXIDE METAL FILM, 1W 1K OHM J	
R407	24381100	OXIDE METAL FILM, 1/2W 10 OHM	
R409	24555220	OXIDE METAL FILM, 3W 22 OHM J	
R410	24555220	OXIDE METAL FILM, 3W 22 OHM J	
R411	24323229	OXIDE METAL FILM, 2W 2.2 OHM J	
R412	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R413	24366101	CARBON FILM, 1/6W 100 OHM J	
R414	24019259	FUSIBLE, 1/4W 27 OHM G	
R415	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R416	24383101	OXIDE METAL FILM, 2W 100 OHM J	
R417	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R418	24382104	OXIDE METAL FILM, 1W 100K OHM	
R419	24942102	CARBON COMPOSITION, 1/2W 1K OH	
R420	24366103	CARBON FILM, 1/6W 10K OHM J	
R421	24366223	CARBON FILM, 1/6W 22K OHM J	
R422	24366223	CARBON FILM, 1/6W 22K OHM J	
R423	24942102	CARBON COMPOSITION, 1/2W 1K OH	
R424	24376104	CARBON FILM, 1/2W 10OK OHM J	
R425	24376104	CARBON FILM, 1/2W 10OK OHM J	
R431	24383102	OXIDE METAL FILM, 2W 1K OHM J	
R432	24376274	CARBON FILM, 1/2W 270K OHM J	
R433	24376274	CARBON FILM, 1/2W 270K OHM J	
R434	24376274	CARBON FILM, 1/2W 270K OHM J	
R435	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R436	24366473	CARBON FILM, 1/6W 47K OHM J	
R437	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R438	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R439	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R441	24533331	FUSIBLE, 2W 330 OHM J	
R443	24988011	METAL FILM, 1/2W 1 OHM J	
R444	24322398	OXIDE METAL FILM, 1W 0.39 OHM	
R446	24366103	CARBON FILM, 1/6W 10K OHM J	
R447	24382473	OXIDE METAL FILM, 1W 47K OHM J	
R448	24366822	CARBON FILM, 1/6W 8.2K OHM J	
R449	24366152	CARBON FILM, 1/6W 1.5K OHM J	
R466	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R467	24366563	CARBON FILM, 1/6W 56K OHM J	
R469	24366101	CARBON FILM, 1/6W 100 OHM J	
R470	24366224	CARBON FILM, 1/6W 220K OHM J	
R477	24998471	CHIP, 1/16W 470 OHM	
R481	24366103	CARBON FILM, 1/6W 10K OHM J	
R482	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R4831	24011473	CHIP, METAL FILM, 1/20W 47K OH	
R490	24552331	OXIDE METAL FILM, 1/2W 330 OHM	
R491	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R492	24366101	CARBON FILM, 1/6W 100 OHM J	
R501	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
R502	24011272	CHIP, METAL FILM, 1/20W 2.7K O	

Location No.	Parts No.	Description	Block
R504	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R505	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R506	24011273	CHIP, METAL FILM, 1/20W 27K OH	
R507	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
R508	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
R509	24011153	CHIP, METAL FILM, 1/2OW 15K OH	
R511	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R512	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R513	24366101	CARBON FILM, 1/6W 100 OHM J	U904
R513	24011103	CHIP, METAL FILM, 1/20W 10K OH	U902
R514	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R515	24366103	CARBON FILM, 1/6W 10K OHM J	U904
R515	24011102	CHIP, METAL FILM, 1/20W 1K OHM	U902
R516	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R517	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R519	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R520	24366681	CARBON FILM, 1/6W 680 OHM J	
R523	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R531	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R532	24000445	CHIP JUMPER, 1608TYPE	
R533	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R534	24000445	CHIP JUMPER, 1608TYPE	
R535	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R536	24000445	CHIP JUMPER, 1608TYPE	
R537	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R538	24000445	CHIP JUMPER, 1608TYPE	
R539	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R540	24000445	CHIP JUMPER, 1608TYPE	
R541	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R542	24000445	CHIP JUMPER, 1608TYPE	
R552	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R554	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R555	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R561	24552181	OXIDE METAL FILM, 1/2W 180 OHM	
R569	24011823	CHIP, METAL FILM, 1/20W 82K OH	
R571	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R572	24872152	CHIP, METAL FILM, 1/16W 1.5K O	
R573	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R574	24872152	CHIP, METAL FILM, 1/16W 1.5K O	
R575	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R576	24872152	CHIP, METAL FILM, 1/16W 1.5K O	
R577	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R578	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R579	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R580	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R581	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R582	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R583	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R584	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R585	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R586	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R587	24011681	CHIP, METAL FILM, 1/20W 680 OH	
R588	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R589	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R590	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R591	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R592	24872122	CHIP, METAL FILM, 1/16W 1.2K O	
R593	24872102	CHIP, METAL FILM, 1/16W 1K OHM	
R601	24011122	CHIP, METAL FILM, 1/20W 1.2K O	
R602	24011122	CHIP, METAL FILM, 1/20W 1.2K O	
R603	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R604	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R605	24011123	CHIP, METAL FILM, 1/20W 12K OH	
R606	24011123	CHIP, METAL FILM, 1/20W 12K OH	
R607	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R608	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R609	24366229	CARBON FILM, 1/6W 2.2 OHM J	

Location No.	Parts No.	Description	Block
R610	24366229	CARBON FILM, 1/6W 2.2 OHM J	
R611	24011104	CHIP, METAL FILM, 1/20W 100K O	
R612	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R613	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R614	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R615	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R616	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R617	24011104	CHIP, METAL FILM, 1/20W 100K O	
R618	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R619	24011224	CHIP, METAL FILM, 1/20W 220K O	
R620	24553821	OXIDE METAL FILM, 1W 820 OHM J	
R621	24011153	CHIP, METAL FILM, 1/2OW 15K OH	
R622	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
R623	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R624	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R628	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R629	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R630	24011123	CHIP, METAL FILM, 1/20W 12K OH	
R631	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R632	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R633	24011822	CHIP, METAL FILM, 1/20W 8.2K O	
R634	24011822	CHIP, METAL FILM, 1/20W 8.2K O	
R635	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R636	24872822	CHIP, METAL FILM, 1/16W 8.2K O	
R637	24872822	CHIP, METAL FILM, 1/16W 8.2K O	
R641	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R642	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R643	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R644	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R645	24011104	CHIP, METAL FILM, 1/20W 100K O	
R646	24872822	CHIP, METAL FILM, 1/16W 8.2K O	
R647	24872822	CHIP, METAL FILM, 1/16W 8.2K O	
R648	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R660	24552681	OXIDE METAL FILM, 1/2W 680 OHM	
R688	24552391	OXIDE METAL FILM, 1/2W 390 OHM	
R690	24552391	OXIDE METAL FILM, 1/2W 390 OHM	
R702	24552221	OXIDE METAL FILM, 1/2W 220 OHM	
R709	24366563	CARBON FILM, 1/6W 56K OHM J	
R713	24366273	CARBON FILM, 1/6W 27K OHM J	
R715	24366333	CARBON FILM, 1/6W 33K OHM J	
R716	24366273	CARBON FILM, 1/6W 27K OHM J	
R717	24366333	CARBON FILM, 1/6W 33K OHM J	
R718	24366101	CARBON FILM, 1/6W 100 OHM J	
R719	24366100	CARBON FILM, 1/6W 10 OHM J	
R720	24366102	CARBON FILM, 1/6W 1K OHM J	
R722	24552471	OXIDE METAL FILM, 1/2W 470 OHM	
R723	24366101	CARBON FILM, 1/6W 100 OHM J	
R724	24366151	CARBON FILM, 1/6W 150 OHM J	
R725	24366152	CARBON FILM, 1/6W 1.5K OHM J	
R730	24552100	OXIDE METAL FILM, 1/2W 10 OHM	
R731	24552331	OXIDE METAL FILM, 1/2W 330 OHM	
R732	24366470	CARBON FILM, 1/6W 47 OHM J	
R733	24366683	CARBON FILM, 1/6W 68K OHM J	
R734	24366470	CARBON FILM, 1/6W 47 OHM J	
R735	24366683	CARBON FILM, 1/6W 68K OHM J	
R736	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R737	24366751	CARBON FILM, 1/6W 750 OHM J	
R738	24366102	CARBON FILM, 1/6W 1K OHM J	
R739	24366751	CARBON FILM, 1/6W 750 OHM J	
R740	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R741	24322229	OXIDE METAL FILM, 1W 2.2 OHM J	
R742	24321229	OXIDE METAL FILM, 1/2W 2.2 OHM	
R743	24554221	OXIDE METAL FILM, 2W 220 OHM J	
R744	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R745	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R761	24366273	CARBON FILM, 1/6W 27K OHM J	
R762	24366563	CARBON FILM, 1/6W 56K OHM J	

Location No.	Parts No.	Description	Block
R763	24552331	OXIDE METAL FILM, 1/2W 330 OHM	
R764	24366470	CARBON FILM, 1/6W 47 OHM J	
R765	24552100	OXIDE METAL FILM, 1/2W 10 OHM	
R766	24366470	CARBON FILM, 1/6W 47 OHM J	
R767	24552221	OXIDE METAL FILM, 1/2W 220 OHM	
R768	24366751	CARBON FILM, 1/6W 750 OHM J	
R769	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R770	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R771	24322229	OXIDE METAL FILM, 1W 2.2 OHM J	
R772	24366683	CARBON FILM, 1/6W 68K OHM J	
R773	24366683	CARBON FILM, 1/6W 68K OHM J	
R774	24366751	CARBON FILM, 1/6W 750 OHM J	
R775	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R776	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R777	24321229	OXIDE METAL FILM, 1/2W 2.2 OHM	
R778	24366102	CARBON FILM, 1/6W 1K OHM J	
R779	24554221	OXIDE METAL FILM, 2W 220 OHM J	
R781	24366273	CARBON FILM, 1/6W 27K OHM J	
R782	24366563	CARBON FILM, 1/6W 56K OHM J	
R783	24552221	OXIDE METAL FILM, 1/2W 220 OHM	
R784	24552100	OXIDE METAL FILM, 1/2W 10 OHM	
R785	24366470	CARBON FILM, 1/6W 47 OHM J	
R786	24366751	CARBON FILM, 1/6W 750 OHM J	
R787	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R788	24366683	CARBON FILM, 1/6W 68K OHM J	
R789	24366683	CARBON FILM, 1/6W 68K OHM J	
R790	24366751	CARBON FILM, 1/6W 750 OHM J	
R791	24366122	CARBON FILM, 1/6W 1.2K OHM J	
R792	24366102	CARBON FILM, 1/6W 1K OHM J	
R793	24321229	OXIDE METAL FILM, 1/2W 2.2 OHM	
R794	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R795	24322229	OXIDE METAL FILM, 1W 2.2 OHM J	
R796	24554221	OXIDE METAL FILM, 2W 220 OHM J	
R797	24366470	CARBON FILM, 1/6W 47 OHM J	
R798	24552331	OXIDE METAL FILM, 1/2W 330 OHM	
R799	24553330	OXIDE METAL FILM, 1W 33 OHM J	
R901	24366101	CARBON FILM, 1/6W 100 OHM J	
R903	24942102	CARBON COMPOSITION, 1/2W 1K OH	
R905	24366470	CARBON FILM, 1/6W 47 OHM J	
R906	24366331	CARBON FILM, 1/6W 330 OHM J	
R908	24366470	CARBON FILM, 1/6W 47 OHM J	
R909	24366390	CARBON FILM, 1/6W 39 OHM J	
R911	24366101	CARBON FILM, 1/6W 100 OHM J	
R913	24942102	CARBON COMPOSITION, 1/2W 1K OH	
R915	24366330	CARBON FILM, 1/6W 33 OHM J	
R916	24366331	CARBON FILM, 1/6W 330 OHM J	
R918	24366470	CARBON FILM, 1/6W 47 OHM J	
R919	24366390	CARBON FILM, 1/6W 39 OHM J	
R920	24366153	CARBON FILM, 1/6W 15K OHM J	
R921	24366101	CARBON FILM, 1/6W 100 OHM J	
R923	24942102	CARBON COMPOSITION, 1/2W 1K OH	
R925	24366470	CARBON FILM, 1/6W 47 OHM J	
R926	24366331	CARBON FILM, 1/6W 330 OHM J	
R928	24366470	CARBON FILM, 1/6W 47 OHM J	
R929	24366390	CARBON FILM, 1/6W 39 OHM J	
R930	24366153	CARBON FILM, 1/6W 15K OHM J	
R931	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R932	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R933	24000874	USE 1W 439J	
R934	24321228	OXIDE METAL FILM, 1/2W 0.22 OH	
R936	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R937	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R938	24366150	CARBON FILM, 1/6W 15 OHM J	
R941	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R942	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R943	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R944	24383153	OXIDE METAL FILM, 2W 15K OHM J	

Location No.	Parts No.	Description	Block
R945	24366150	CARBON FILM, 1/6W 15 OHM J	
R948	24366153	CARBON FILM, 1/6W 15K OHM J	
R949	24366153	CARBON FILM, 1/6W 15K OHM J	
R951	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R952	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R953	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R954	24383153	OXIDE METAL FILM, 2W 15K OHM J	
R959	24366150	CARBON FILM, 1/6W 15 OHM J	
R961	24366152	CARBON FILM, 1/6W 1.5K OHM J	
R962	24366471	CARBON FILM, 1/6W 470 OHM J	
R964	24366332	CARBON FILM, 1/6W 3.3K OHM J	
R965	24366471	CARBON FILM, 1/6W 470 OHM J	
R966	24366331	CARBON FILM, 1/6W 330 OHM J	
R967	24366681	CARBON FILM, 1/6W 680 OHM J	
R987	24366470	CARBON FILM, 1/6W 47 OHM J	
R991	24366153	CARBON FILM, 1/6W 15K OHM J	
R992	24366153	CARBON FILM, 1/6W 15K OHM J	
R2020	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R2022	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R2060	24366221	CARBON FILM, 1/6W 220 OHM J	
R2105	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R2106	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R2107	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R2149	24871681	CHIP, METAL FILM, 1/8W 680 OHM	
R2150	24871681	CHIP, METAL FILM, 1/8W 680 OHM	
R2151	24871681	CHIP, METAL FILM, 1/8W 680 OHM	
R2155	24871102	CHIP, METAL FILM, 1/8W 1K OHM	
R2156	24871102	CHIP, METAL FILM, 1/8W 1K OHM	
R2157	24871102	CHIP, METAL FILM, 1/8W 1K OHM	
R2158	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R2159	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R4151	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R4152	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R4153	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R4401	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R4402	24011223	CHIP, METAL FILM, 1/20W 22K OH	
R4403	24011471	CHIP, METAL FILM, 1/20W 470 OH	
R4404	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
R4405	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R4406	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R4407	24011471	CHIP, METAL FILM, 1/20W 470 OH	
R4408	24011153	CHIP, METAL FILM, 1/2OW 15K OH	
R4409	24871152	CHIP, METAL FILM, 1/8W 1.5K OH	
R4411	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R4412	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R4414	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R4420	24011331	CHIP, METAL FILM, 1/20W 330 OH	
R4421	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
R4422	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R4423	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
R4426	24366224	CARBON FILM, 1/6W 220K OHM J	
R4427	24011471	CHIP, METAL FILM, 1/20W 470 OH	
R4428	24011471	CHIP, METAL FILM, 1/20W 470 OH	
R4430	24381150	OXIDE METAL FILM, 1/2W 15 OHM	
R4431	24366102	CARBON FILM, 1/6W 1K OHM J	
R4444	24383102	OXIDE METAL FILM, 2W 1K OHM J	
R4451	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
R4452	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R4454	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R4455	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
R4466	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R4467	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
R5020	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R5030	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7701	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R7707	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7708	24011472	CHIP, METAL FILM, 1/20W 4.7K O	

Location No.	Parts No.	Description	Block
R7710	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7711	24339189	METAL FILM 2W 1R8 J	
R7712	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7713	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7715	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7716	24339189	METAL FILM 2W 1R8 J	
R7717	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7718	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7720	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7721	24339189	METAL FILM 2W 1R8 J	
R7722	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7723	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7725	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7726	24339189	METAL FILM 2W 1R8 J	
R7727	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7728	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7730	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7731	24339189	METAL FILM 2W 1R8 J	
R7732	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7733	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7735	24384121	OXIDE METAL FILM, 3W 120 OHM J	
R7736	24339189	METAL FILM 2W 1R8 J	
R7740	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7741	24011683	CHIP, METAL FILM, 1/20W 68K OH	
R7742	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R7766	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R7767	24011153	CHIP, METAL FILM, 1/2OW 15K OH	
R7775	24011333	CHIP, METAL FILM, 1/20W 33K OH	
R7776	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R7777	24011474	CHIP, METAL FILM, 1/20W 470K O	
R7778	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7779	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
R7786	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7788	24366221	CARBON FILM, 1/6W 220 OHM J	
R7790	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7799	24011684	CHIP, METAL FILM, 1/20W 680K O	
R7836	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R7837	24366101	CARBON FILM, 1/6W 100 OHM J	
R7841	24366101	CARBON FILM, 1/6W 100 OHM J	
R7842	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R7843	24366471	CARBON FILM, 1/6W 470 OHM J	
R7844	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R7845	24366471	CARBON FILM, 1/6W 470 OHM J	
R7846	24366103	CARBON FILM, 1/6W 10K OHM J	
R7847	24366103	CARBON FILM, 1/6W 10K OHM J	
R7848	24366222	CARBON FILM, 1/6W 2.2K OHM J	
R7861	24366472	CARBON FILM, 1/6W 4.7K OHM J	
R7862	24366222	CARBON FILM, 1/6W 2.2K OHM J	
R7864	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7868	24011752	CHIP, METAL FILM, 1/20W 7.5K O	
R7872	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R7880	24011221	CHIP, METAL FILM, 1/20W 220 OH	
R7881	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7882	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R7883	24011103	CHIP, METAL FILM, 1/20W 10K OH	
R7890	24011331	CHIP, METAL FILM, 1/20W 330 OH	
R7891	24011331	CHIP, METAL FILM, 1/20W 330 OH	
R7904	24000635	METAL FILM, 1/4W 12K OHM F	
R7905	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
R7906	24011752	CHIP, METAL FILM, 1/20W 7.5K O	
R7907	24011104	CHIP, METAL FILM, 1/20W 100K O	
R7908	24366222	CARBON FILM, 1/6W 2.2K OHM J	
R7909	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
R7910	24011221	CHIP, METAL FILM, 1/20W 220 OH	
R7911	24011221	CHIP, METAL FILM, 1/20W 220 OH	
R7912	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7913	24011101	CHIP, METAL FILM, 1/20W 100 OH	

Location No.	Parts No.	Description	Block
R7914	24381182	OXIDE METAL FILM, 1/2W 1.8K OH	
R7921	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7922	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7923	24011101	CHIP, METAL FILM, 1/20W 100 OH	
R7940	24383102	OXIDE METAL FILM, 2W 1K OHM J	
R7941	24382181	OXIDE METAL FILM, 1W 180 OHM J	
R9501	24366470	CARBON FILM, 1/6W 47 OHM J	
R9503	24366681	CARBON FILM, 1/6W 680 OHM J	
R9607	24366470	CARBON FILM, 1/6W 47 OHM J	
R9608	24366681	CARBON FILM, 1/6W 680 OHM J	
RA02	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA03	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA04	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA05	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA06	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA07	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RA08	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RA09	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA10	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA11	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA12	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA13	24011331	CHIP, METAL FILM, 1/20W 330 OH	
RA14	24011331	CHIP, METAL FILM, 1/20W 330 OH	
RA15	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
RA19	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA20	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA21	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA22	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA24	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA26	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA27	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA29	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA30	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA31	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA32	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA33	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA35	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA36	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA37	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA41	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA42	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA43	24011333	CHIP, METAL FILM, 1/20W 33K OH	
RA44	24011333	CHIP, METAL FILM, 1/20W 33K OH	
RA45	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA50	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA53	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA60	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA61	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA63	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA64	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RA69	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA70	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA71	24366683	CARBON FILM, 1/6W 68K OHM J	
RA72	24366223	CARBON FILM, 1/6W 22K OHM J	
RA73	24011472	CHIP, METAL FILM, 1/20W 4.7K O	U902
RA73	24366103	CARBON FILM, 1/6W 10K OHM J	U903C
RA74	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA75	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA76	24011333	CHIP, METAL FILM, 1/20W 33K OH	U902
RA76	24366103	CARBON FILM, 1/6W 10K OHM J	U903C
RA77	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA78	24011224	CHIP, METAL FILM, 1/20W 220K O	
RA79	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
RA80	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
RA82	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA83	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA84	24011103	CHIP, METAL FILM, 1/20W 10K OH	

Location No.	Parts No.	Description	Block
RA85	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA86	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA87	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA88	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
RA89	24011272	CHIP, METAL FILM, 1/20W 2.7K O	
RA90	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA91	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
RA92	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA93	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA94	24011470	CHIP, METAL FILM, 1/20W 47 OHM	
RA95	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RA96	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RA97	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RA98	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RA99	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RA100	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RA101	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RA103	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RB01	24366271	CARBON FILM, 1/6W 270 OHM J	
RB02	24366471	CARBON FILM, 1/6W 470 OHM J	
RB04	24011331	CHIP, METAL FILM, 1/20W 330 OH	
RB05	24011105	CHIP, METAL FILM, 1/20W 1M OHM	
RB06	24011123	CHIP, METAL FILM, 1/20W 12K OH	
RB07	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RB08	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RB09	24011103	CHIP, METAL FILM, 1/20W 10K OH	U902
RB09	24366470	CARBON FILM, 1/6W 47 OHM J	U903B
RB10	24011101	CHIP, METAL FILM, 1/20W 100 OH	U902
RB10	24366101	CARBON FILM, 1/6W 100 OHM J	U903C
RB11	24011222	CHIP, METAL FILM, 1/20W 2.2K O	U902
RB11	24366103	CARBON FILM, 1/6W 10K OHM J	U903C
RB12	24366471	CARBON FILM, 1/6W 470 OHM J	
RB32	24011105	CHIP, METAL FILM, 1/20W 1M OHM	
RB33	24011123	CHIP, METAL FILM, 1/20W 12K OH	
RB34	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RB35	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RB46	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RB49	24011331	CHIP, METAL FILM, 1/20W 330 OH	
RB81	24011122	CHIP, METAL FILM, 1/20W 1.2K O	
RB82	24011123	CHIP, METAL FILM, 1/20W 12K OH	
RB83	24011123	CHIP, METAL FILM, 1/20W 12K OH	
RB90	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RB91	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RB92	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RB93	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RB94	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RB95	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RB96	24011273	CHIP, METAL FILM, 1/20W 27K OH	
RB97	24011273	CHIP, METAL FILM, 1/20W 27K OH	
RB98	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RC01	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC02	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC03	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC04	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC05	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC06	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC07	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC08	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RC09	24000445	CHIP JUMPER, 1608TYPE	
RC10	24000445	CHIP JUMPER, 1608TYPE	
RC60	24366681	CARBON FILM, 1/6W 680 OHM J	
RC61	24366681	CARBON FILM, 1/6W 680 OHM J	
RF01	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF02	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF03	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF04	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF05	24011473	CHIP, METAL FILM, 1/20W 47K OH	

Location No.	Parts No.	Description	Block
RF06	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RF07	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF08	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RF09	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RF10	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF11	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF12	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RF13	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RF14	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RF15	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RF16	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RF17	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RF18	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF19	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RF20	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RF21	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF22	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF23	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF24	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF25	24000445	CHIP JUMPER, 1608TYPE	
RF26	24011331	CHIP, METAL FILM, 1/20W 330 OH	
RF27	24105121	CERAMIC CHIP, 50V CH 120PF J	
RF28	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF29	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF30	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF31	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF32	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF33	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF34	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF35	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF36	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RF37	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF38	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF39	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF40	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
RF42	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
RF43	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
RF44	24011682	CHIP, METAL FILM, 1/20W 6.8K O	
RF45	24000445	CHIP JUMPER, 1608TYPE	
RF46	24011224	CHIP, METAL FILM, 1/20W 220K O	
RF48	24000445	CHIP JUMPER, 1608TYPE	
RF51	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF57	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF58	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RF63	24011224	CHIP, METAL FILM, 1/20W 220K O	
RF64	24011224	CHIP, METAL FILM, 1/20W 220K O	
RF65	24011224	CHIP, METAL FILM, 1/20W 220K O	
RF66	24011472	CHIP, METAL FILM, 1/20W 4.7K O	
RF68	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF69	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF70	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF71	24000445	CHIP JUMPER, 1608TYPE	
RF78	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RF79	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF80	24019398	CHIP BLOCK, 1/16W P-8 33 OHM J	
RF81	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF82	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF84	24000445	CHIP JUMPER, 1608TYPE	
RF93	24000445	CHIP JUMPER, 1608TYPE	
RF94	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF95	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RF97	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF98	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF99	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF100	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF101	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF102	24011330	CHIP, METAL FILM, 1/20W 33 OHM	

Location No.	Parts No.	Description	Block
RF103	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF104	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF105	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF106	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF107	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF108	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF109	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF110	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF111	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF112	24011330	CHIP, METAL FILM, 1/20W 33 OHM	
RF147	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RF148	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RG03	24007493	CERAMIC COVERED, 2WG 270 OHM J	
RG04	24376154	CARBON FILM, 1/2W 150K OHM J	
RG05	24310829	OXIDE METAL FILM, 1/2W 8.2 OHM	
RG11	24366471	CARBON FILM, 1/6W 470 OHM J	
RG12	24310279	METAL FILM, 1/2W 2.7 OHM J	
RG17	24366103	CARBON FILM, 1/6W 10K OHM J	
RG18	24366472	CARBON FILM, 1/6W 4.7K OHM J	
RG19	24366103	CARBON FILM, 1/6W 10K OHM J	
RG20	24366331	CARBON FILM, 1/6W 330 OHM J	
RG21	24310829	OXIDE METAL FILM, 1/2W 8.2 OHM	
RG22	24323229	OXIDE METAL FILM, 2W 2.2 OHM J	
RG23	24321228	OXIDE METAL FILM, 1/2W 0.22 OH	
RG26	24366229	CARBON FILM, 1/6W 2.2 OHM J	
RG75	24381182	OXIDE METAL FILM, 1/2W 1.8K OH	
RR01	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RR02	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RR03	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RR04	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RR05	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RR06	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RR07	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RR08	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RR09	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
RR10	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RR11	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RR12	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
RR13	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RR14	24011392	CHIP, METAL FILM, 1/20W 3.9K O	
RR15	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
RR16	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RR17	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS01	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS02	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS03	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS04	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS05	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS06	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS07	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS08	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS09	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS10	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS11	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS12	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS13	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RS14	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RS15	24011104	CHIP, METAL FILM, 1/20W 100K O	
RS16	24011104	CHIP, METAL FILM, 1/20W 100K O	
RS17	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS18	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS19	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS20	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS21	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RS22	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RS23	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS24	24011223	CHIP, METAL FILM, 1/20W 22K OH	

Location No.	Parts No.	Description	Block
RS25	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS26	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS27	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS28	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS29	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RS30	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RS31	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS32	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS33	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS34	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS37	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS38	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS49	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RS50	24011271	CHIP, METAL FILM, 1/20W 270 OH	
RS51	24011104	CHIP, METAL FILM, 1/20W 100K O	
RS52	24011104	CHIP, METAL FILM, 1/20W 100K O	
RS53	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS54	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS55	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RS56	24011104	CHIP, METAL FILM, 1/20W 100K O	
RS58	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS59	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RS61	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS63	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS65	24011681	CHIP, METAL FILM, 1/20W 680 OH	
RS66	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS67	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS68	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS69	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS70	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RS71	24011393	CHIP, METAL FILM, 1/20W 39K OH	
RS72	24011393	CHIP, METAL FILM, 1/20W 39K OH	
RS73	24011563	CHIP, METAL FILM, 1/20W 56K OH	
RS74	24011563	CHIP, METAL FILM, 1/20W 56K OH	
RS75	24011223	CHIP, METAL FILM, 1/20W 22K OH	
RS76	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RS77	24011104	CHIP, METAL FILM, 1/20W 100K O	
RV04	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV05	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RV07	24367103	CARBON FILM, 1/6W 10K OHM G	
RV08	24367103	CARBON FILM, 1/6W 10K OHM G	
RV09	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV10	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV16	24011333	CHIP, METAL FILM, 1/20W 33K OH	
RV17	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RV18	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV19	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RV20	24367103	CARBON FILM, 1/6W 10K OHM G	
RV21	24367392	CARBON FILM, 1/6W 3.9K OHM G	
RV23	24552101	OXIDE METAL FILM, 1/2W 100 OHM	
RV25	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV26	24872471	CHIP, METAL FILM, 1/16W 470 OH	
RV27	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV28	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RV29	24011562	CHIP, METAL FILM, 1/20W 5.6K O	
RV30	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV31	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV32	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV33	24367392	CARBON FILM, 1/6W 3.9K OHM G	
RV34	24367392	CARBON FILM, 1/6W 3.9K OHM G	
RV35	24872151	CHIP, METAL FILM, 1/16W 150 OH	
RV36	24872151	CHIP, METAL FILM, 1/16W 150 OH	
RV37	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV38	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV39	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV41	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV42	24011391	CHIP, METAL FILM, 1/20W 390 OH	

Location No.	Parts No.	Description	Block
RV43	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RV44	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV48	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RV51	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RV52	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RV53	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RV60	24011222	CHIP, METAL FILM, 1/20W 2.2K O	
RV61	24552101	OXIDE METAL FILM, 1/2W 100 OHM	
RV62	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV63	24872471	CHIP, METAL FILM, 1/16W 470 OH	
RV64	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV65	24552101	OXIDE METAL FILM, 1/2W 100 OHM	
RV66	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV67	24872471	CHIP, METAL FILM, 1/16W 470 OH	
RV68	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RV81	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV85	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV86	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV87	24872750	CHIP, METAL FILM, 1/16W 75 OHM	
RV88	24872151	CHIP, METAL FILM, 1/16W 150 OH	
RV89	24872151	CHIP, METAL FILM, 1/16W 150 OH	
RV94	24011750	CHIP, METAL FILM, 1/20W 75 OHM	
RV95	24011750	CHIP, METAL FILM, 1/20W 75 OHM	
RV96	24011750	CHIP, METAL FILM, 1/20W 75 OHM	
RV281	24367102	CARBON FILM, 1/6W 1K OHM G	
RV331	24367102	CARBON FILM, 1/6W 1K OHM G	
RV341	24367102	CARBON FILM, 1/6W 1K OHM G	
RZ02	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RZ03	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RZ04	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
RZ06	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RZ08	24011102	CHIP, METAL FILM, 1/20W 1K OHM	
RZ09	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RZ11	24011101	CHIP, METAL FILM, 1/20W 100 OH	
RZ17	24011103	CHIP, METAL FILM, 1/20W 10K OH	
RZ18	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RZ19	24011473	CHIP, METAL FILM, 1/20W 47K OH	
RZ20	24011152	CHIP, METAL FILM, 1/20W 1.5K O	
RZ21	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RZ22	24011332	CHIP, METAL FILM, 1/20W 3.3K O	
RZ26	24011471	CHIP, METAL FILM, 1/20W 470 OH	
RZ28	24011151	CHIP, METAL FILM, 1/20W 150 OH	
RZ29	24011681	CHIP, METAL FILM, 1/20W 680 OH	
COILS and TRANFORMERS			
L101	23248296	COIL, CHOKE	
L102	23103828	INDUCTOR, BEAD, TEM2121M	
L103	23103828	INDUCTOR, BEAD, TEM2121M	
L302	23248073	COIL, CHOKE, TLN3299D	
L303	23248073	COIL, CHOKE, TLN3299D	
L304	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L310	23289846	COIL, PEAKING, TRF4101AT	
L401	23289560	COIL, PEAKING, TRF4560AF	
L402	23248345	COIL, CHOKE EI24 120MMH TLN3534AH	
L403	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L406	23248191	COIL, CHOKE, TLN3351AD	
L407	23103248	FERRITR CHOKE, TEM2014AA	
L408	23103248	FERRITR CHOKE, TEM2014AA	
L441	23233056	COIL, LINEARITY TLN2222AG	
L462	23231372	DEFLECTION YOKE, TDY707QD	
L463	23231372	DEFLECTION YOKE, TDY707QD	
L464	23231372	DEFLECTION YOKE, TDY707QD	
L472	23102441	MAGNET, CONVERGENCE, MAG1094	
L473	23102499	MAGNET, CPM29.1VM MAG-1119	
L474	23102441	MAGNET, CONVERGENCE, MAG1094	
L501	23289470	COIL, PEAKING, TRF4470AF	
L503	23289470	COIL, PEAKING, TRF4470AF	

Location No.	Parts No.	Description	Block
L504	23238714	COIL, PEAKING, TRF4100AJ	
L505	23289840	COIL, PEAKING, TRF4100AT	
L510	23103852	COIL, FILTER, TEM2028AH	
L511	23103852	COIL, FILTER, TEM2028AH	
L513	23103845	COIL, TEM2030AY	
L514	23103845	COIL, TEM2030AY	
L515	23103845	COIL, TEM2030AY	
L516	23103845	COIL, TEM2030AY	
L531	23103845	COIL, TEM2030AY	
L535	23289840	COIL, PEAKING, TRF4100AT	
L538	23280022	COIL, PEAKING, TRF4101AZ	
L538	23289840	COIL, PEAKING, TRF4100AT	
L539	23289840	COIL, PEAKING, TRF4100AT	
L701	23289840	COIL, PEAKING, TRF4100AT	
L702	23261974	COIL, FERRITE BEAD, HC5-035	
L704	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L705	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L764	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L765	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L766	23261974	COIL, FERRITE BEAD, HC5-035	
L769	23237975	COIL, PEAKING, TRF4101AC	
L780	23237975	COIL, PEAKING, TRF4101AC	
L781	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L782	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L783	23261974	COIL, FERRITE BEAD, HC5-035	
L901	23237975	COIL, PEAKING, TRF4101AC	
L902	23238714	COIL, PEAKING, TRF4100AJ	
L903	23289845	COIL, PEAKING, TRF4680AT	
L911	23289840	COIL, PEAKING, TRF4100AT	
L912	23289845	COIL, PEAKING, TRF4680AT	
L913	23238714	COIL, PEAKING, TRF4100AJ	
L922	23289845	COIL, PEAKING, TRF4680AT	
L923	23238714	COIL, PEAKING, TRF4100AJ	
L961	23289840	COIL, PEAKING, TRF4100AT	
L4401	23289101	COIL, PEAKING, TRF4101AF	
L4420	23289470	COIL, PEAKING, TRF4470AF	
L4441	23248326	COIL, CHOKE, TLN3530AH	
L7701	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7702	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7703	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7704	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7705	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7706	23103894	FILTER, FERRITE BEAD, TEM2011AW	
L7708	23103145	FERRITE CHOKE, TEM2011AA	
L7709	23103145	FERRITE CHOKE, TEM2011AA	
L7710	23248320	COIL, CHOKE 15X23H 100MMH 2.5A TLN3441AH	
L7711	23248320	COIL, CHOKE 15X23H 100MMH 2.5A TLN3441AH	
L7712	23248031	COIL, CHOKE, TLN3274D	
L7713	23248031	COIL, CHOKE, TLN3274D	
LA01	23289840	COIL, PEAKING, TRF4100AT	
LC01	23103828	INDUCTOR, BEAD, TEM2121M	
LC02	23103828	INDUCTOR, BEAD, TEM2121M	
LC03	23103828	INDUCTOR, BEAD, TEM2121M	
LC04	23103828	INDUCTOR, BEAD, TEM2121M	
LC05	23103828	INDUCTOR, BEAD, TEM2121M	
LC06	23103828	INDUCTOR, BEAD, TEM2121M	
LC07	23238562	COIL, PEAKING, TRF4109AJ	
LC08	23238562	COIL, PEAKING, TRF4109AJ	
LC09	23103828	INDUCTOR, BEAD, TEM2121M	
LC10	23103828	INDUCTOR, BEAD, TEM2121M	
LC11	23103845	COIL, TEM2030AY	
LC12	23103845	COIL, TEM2030AY	
LC12	23238562	COIL, PEAKING, TRF4109AJ	
LC13	23103828	INDUCTOR, BEAD, TEM2121M	
LC15	23103828	INDUCTOR, BEAD, TEM2121M	

Location No.	Parts No.	Description	Block
LC16	23103828	INDUCTOR, BEAD, TEM2121M	
LC17	23103828	INDUCTOR, BEAD, TEM2121M	
LC18	23103828	INDUCTOR, BEAD, TEM2121M	
LC21	23103828	INDUCTOR, BEAD, TEM2121M	
LF01	23103827	INDUCTOR, BEAD, TEM2120M	
LF02	23103827	INDUCTOR, BEAD, TEM2120M	
LF03	23103887	INDUCTOR, CHIP BEAD, TEM2130AM	
LF04	23103887	INDUCTOR, CHIP BEAD, TEM2130AM	
LF07	23103828	INDUCTOR, BEAD, TEM2121M	
LF08	23103828	INDUCTOR, BEAD, TEM2121M	
LF10	23289100	COIL, PEAKING, TRF4100AF	
LF11	23103827	INDUCTOR, BEAD, TEM2120M	
LF20	23103827	INDUCTOR, BEAD, TEM2120M	
LF21	23103827	INDUCTOR, BEAD, TEM2120M	
LF31	23103828	INDUCTOR, BEAD, TEM2121M	
LF32	23103828	INDUCTOR, BEAD, TEM2121M	
LF42	23103828	INDUCTOR, BEAD, TEM2121M	
LF43	23103828	INDUCTOR, BEAD, TEM2121M	
LF45	23103828	INDUCTOR, BEAD, TEM2121M	
LF46	23103828	INDUCTOR, BEAD, TEM2121M	
LF47	23103828	INDUCTOR, BEAD, TEM2121M	
LF48	23103828	INDUCTOR, BEAD, TEM2121M	
LF49	23103828	INDUCTOR, BEAD, TEM2121M	
LF57	23103828	INDUCTOR, BEAD, TEM2121M	
LF60	23103828	INDUCTOR, BEAD, TEM2121M	
LF62	23103887	INDUCTOR, CHIP BEAD, TEM2130AM	
LF63	23103828	INDUCTOR, BEAD, TEM2121M	
LG03	23103880	COIL, CHOKE, TEM2011Y	
LG08	23103880	COIL, CHOKE, TEM2011Y	
LG09	23103880	COIL, CHOKE, TEM2011Y	
LG10	23103880	COIL, CHOKE, TEM2011Y	
LG11	23103880	COIL, CHOKE, TEM2011Y	
LG24	23280016	COIL, PEAKING, TRF4100AZ	
LG25	23289840	COIL, PEAKING, TRF4100AT	
LR01	23289840	COIL, PEAKING, TRF4100AT	
LV09	23289840	COIL, PEAKING, TRF4100AT	
LV10	23289840	COIL, PEAKING, TRF4100AT	
LV42	23289840	COIL, PEAKING, TRF4100AT	
LV43	23289840	COIL, PEAKING, TRF4100AT	
LZ01	23289840	COIL, PEAKING, TRF4100AT	
LZ02	23289840	COIL, PEAKING, TRF4100AT	
LZ03	23289840	COIL, PEAKING, TRF4100AT	
LZ04	23103827	INDUCTOR, BEAD, TEM2120M	
LZ05	23103852	COIL, FILTER, TEM2028AH	
LZ07	23238708	COIL, PEAKING, TRF4330AJ	
T400	23224386	TRANSFORMER, FOCUS, TLN2220AH	
T401	23224371	TRANSFORMER, HORIZ DRIVE, TLN1080AH	
T461	23236813	TRANSFORMER, FLY-BACK TFB3093BH	
T461A	23192961	ANODE CAP ASSY, TCC5605AU	
TG01	23217466	TRANSFORMER, CONVERTER TPW3449AM	
TG02	23211661	COIL, LINE FILTER, TRF3192	
T860	23217599	TPW3517AH Transformer	
SEMICONDUCTORS			
Q201	23314794	TRANSISTOR, 2PC1815Y	
Q241	23114756	TRANSISTOR, 2SC2482	
Q271	23114499	TRANSISTOR, RN1404	
Q272	23114499	TRANSISTOR, RN1404	
Q273	23114493	TRANSISTOR, RN2404	
Q274	23314993	TRANSISTOR, 2SC4081 Q	
Q291	23314994	TRANSISTOR, 2SA1576A106	
Q301	23319787	IC, LA7833S	
Q301B	23035308	SCREW, 3X8MM, TAPPING	
Q302	23000711	IC, TA1317AN	
Q305	23314994	TRANSISTOR, 2SA1576A106	
Q306	70119059	IC, OP AMP, TA75902P(J)	

Location No.	Parts No.	Description	Block
Q370	23314993	TRANSISTOR, 2SC4081 Q	
Q371	23314994	TRANSISTOR, 2SA1576A106	
Q372	23205014	TRANSISTOR, 2SC4667-O	
Q381	23205014	TRANSISTOR, 2SC4667-O	
Q382	23205014	TRANSISTOR, 2SC4667-O	
Q400	23205079	TRANSISTOR, 2SC4686A	
Q402	23205166	TRANSISTOR, FET, 2SK2962	
Q404	23205149	TRANSISTOR, 2SC5859(FA)	
Q404B	23850638	INSULATOR, TRANSISTOR, AC263	
Q404D	72471082	SCREW, 3X10MM	
Q405	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q406	23114433	TRANSISTOR, 2SC1815-Y	
Q410	23114433	TRANSISTOR, 2SC1815-Y	
Q411	23314993	TRANSISTOR, 2SC4081 Q	
Q420	23114756	TRANSISTOR, 2SC2482	
Q425	23205031	TRANSISTOR, FET, 2SK2920	
Q428	23314993	TRANSISTOR, 2SC4081 Q	
Q501	23009178	IC, TB1274AF(J, FP)	
Q504	23314994	TRANSISTOR, 2SA1576A106	
Q505	23314994	TRANSISTOR, 2SA1576A106	
Q506	23314794	TRANSISTOR, 2PC1815Y	
Q507	23114501	TRANSISTOR, RN1402	
Q510	23009369	IC, TA1360AFG	
Q530	23905590	IC, M52055FP	
Q531	23314993	TRANSISTOR, 2SC4081 Q	
Q532	23314994	TRANSISTOR, 2SA1576A106	
Q533	23314993	TRANSISTOR, 2SC4081 Q	
Q534	23314994	TRANSISTOR, 2SA1576A106	
Q535	23314993	TRANSISTOR, 2SC4081 Q	
Q536	23314994	TRANSISTOR, 2SA1576A106	
Q537	23314994	TRANSISTOR, 2SA1576A106	
Q538	23314994	TRANSISTOR, 2SA1576A106	
Q539	23314994	TRANSISTOR, 2SA1576A106	
Q540	23314993	TRANSISTOR, 2SC4081 Q	
Q541	23314993	TRANSISTOR, 2SC4081 Q	
Q542	23314993	TRANSISTOR, 2SC4081 Q	
Q543	23314993	TRANSISTOR, 2SC4081 Q	
Q545	23314993	TRANSISTOR, 2SC4081 Q	
Q546	23314993	TRANSISTOR, 2SC4081 Q	
Q601	23009485	IC, TA8258H(GR)	
Q601B	23035308	SCREW, 3X8MM, TAPPING	
Q611	70114396	TRANSISTOR, 2SC3326B	
Q612	70114396	TRANSISTOR, 2SC3326B	
Q613	23314993	TRANSISTOR, 2SC4081 Q	
Q614	23114499	TRANSISTOR, RN1404	
Q615	23314994	TRANSISTOR, 2SA1576A106	
Q616	23314994	TRANSISTOR, 2SA1576A106	
Q617	23906596	IC, BA4558	
Q618	23314993	TRANSISTOR, 2SC4081 Q	
Q619	23314993	TRANSISTOR, 2SC4081 Q	
Q624	70114396	TRANSISTOR, 2SC3326B	
Q625	23114493	TRANSISTOR, RN2404	
Q626	23314993	TRANSISTOR, 2SC4081 Q	
Q627	23114493	TRANSISTOR, RN2404	
Q706	23114433	TRANSISTOR, 2SC1815-Y	
Q707	23114437	TRANSISTOR, 2SC752GTM-Y	
Q709	23114433	TRANSISTOR, 2SC1815-Y	
Q710	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q711	23205075	TRANSISTOR, 2SA1930	
Q711B	23035308	SCREW, 3X8MM, TAPPING	
Q712	23205076	TRANSISTOR, 2SC5171	
Q712B	23035308	SCREW, 3X8MM, TAPPING	
Q719	23114433	TRANSISTOR, 2SC1815-Y	
Q720	23114433	TRANSISTOR, 2SC1815-Y	
Q740	23314993	TRANSISTOR, 2SC4081 Q	
Q751	23135040	IC, CONVERGENCE OUT STK394-250	
Q752	23135040	IC, CONVERGENCE OUT STK394-250	

Location No.	Parts No.	Description	Block
Q760	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q761	23205075	TRANSISTOR, 2SA1930	
Q761B	23035308	SCREW, 3X8MM, TAPPING	
Q769	23114433	TRANSISTOR, 2SC1815-Y	
Q771	23314994	TRANSISTOR, 2SA1576A106	U904
Q771	23205076	TRANSISTOR, 2SC5171	U901E
Q771B	23035308	SCREW, 3X8MM, TAPPING	
Q772	23319666	IC, TC74HC123AP(NEW)	
Q776	23114433	TRANSISTOR, 2SC1815-Y	
Q777	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q778	23114433	TRANSISTOR, 2SC1815-Y	
Q779	23114433	TRANSISTOR, 2SC1815-Y	
Q780	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q781	23114433	TRANSISTOR, 2SC1815-Y	
Q782	23319894	IC, NJM79M05FA	U904
Q782	23114425	TRANSISTOR, 2SA1015-Y(TE	U904
Q783	23205037	TRANSISTOR, 2SJ512	U904
Q783	23114433	TRANSISTOR, 2SC1815-Y	U901F
Q783B	23035308	SCREW, 3X8MM, TAPPING	
Q784	23904268	IC, PQ05RR1	U904
Q784	23205075	TRANSISTOR, 2SA1930	U901F
Q784B	23035308	SCREW, 3X8MM, TAPPING	
Q785	23205076	TRANSISTOR, 2SC5171	
Q785B	23035308	SCREW, 3X8MM, TAPPING	
Q788	23314993	TRANSISTOR, 2SC4081 Q	
Q792	23319666	IC, TC74HC123AP(NEW)	
Q793	23314917	TRANSISTOR, 2SK2003-01MR	
Q796	23314993	TRANSISTOR, 2SC4081 Q	
Q890	23009549	IC, REGULATOR +9V 3% NJM2396F09D	
Q890B	23035308	SCREW, 3X8MM, TAPPING	
Q891	23009546	IC, REGULATOR +5V 3% NJM2396F05D	
Q891B	23035308	SCREW, 3X8MM, TAPPING	
Q892	23009546	IC, REGULATOR +5V 3% NJM2396F05D	
Q892B	23035308	SCREW, 3X8MM, TAPPING	
Q901	23314971	TRANSISTOR, 2SC5360(FA)	
Q901B	23035308	SCREW, 3X8MM, TAPPING	
Q902	23114433	TRANSISTOR, 2SC1815-Y	
Q911	23314971	TRANSISTOR, 2SC5360(FA)	
Q911B	23035308	SCREW, 3X8MM, TAPPING	
Q912	23114433	TRANSISTOR, 2SC1815-Y	
Q913	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q921	23314971	TRANSISTOR, 2SC5360(FA)	
Q921B	23035308	SCREW, 3X8MM, TAPPING	
Q922	23114433	TRANSISTOR, 2SC1815-Y	
Q961	23114433	TRANSISTOR, 2SC1815-Y	
Q962	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q973	23114425	TRANSISTOR, 2SA1015-Y(TE	
Q2104	23314791	TRANSISTOR, 2PA1015Y	
Q2105	23314791	TRANSISTOR, 2PA1015Y	
Q2106	23314791	TRANSISTOR, 2PA1015Y	
Q2107	23314994	TRANSISTOR, 2SA1576A106	
Q2108	23314994	TRANSISTOR, 2SA1576A106	
Q2109	23314994	TRANSISTOR, 2SA1576A106	
Q4420	23000370	IC, TA1318N	
Q4430	23114733	TRANSISTOR, 2SC2655-Y	
Q4451	23205068	TRANSISTOR, 2SC5343S-Y	
Q4452	23114458	TRANSISTOR, RN1206	
Q4453	23114458	TRANSISTOR, RN1206	
Q4454	23114458	TRANSISTOR, RN1206	
Q4465	23314994	TRANSISTOR, 2SA1576A106	
QA01	23009444	IC, 8BIT MCU 120K 64PIN CXP750010-309S	
QA02	23009330	IC, AT24C64-10PI-2.7	
QA05	23906367	IC, PST9146NL	
QA13	23205112	TRANSISTOR, 2SA1980UF-Y(	
QA82	23000592	IC, 2IN-1OUTSW 6DBAMP CLP MM1504XN	
QA83	23114499	TRANSISTOR, RN1404	
QA84	23205014	TRANSISTOR, 2SC4667-O	

Location No.	Parts No.	Description	Block
QA85	23314994	TRANSISTOR, 2SA1576A106	
QB01	23114425	TRANSISTOR, 2SA1015-Y(TE	
QB04	23314994	TRANSISTOR, 2SA1576A106	
QB05	23314993	TRANSISTOR, 2SC4081 Q	
QB06	23314994	TRANSISTOR, 2SA1576A106	
QB42	23314994	TRANSISTOR, 2SA1576A106	
QB43	23314993	TRANSISTOR, 2SC4081 Q	
QB81	70114396	TRANSISTOR, 2SC3326B	
QB82	70114396	TRANSISTOR, 2SC3326B	
QB83	23314994	TRANSISTOR, 2SA1576A106	
QB92	23314993	TRANSISTOR, 2SC4081 Q	
QB93	23314994	TRANSISTOR, 2SA1576A106	
QB94	23314994	TRANSISTOR, 2SA1576A106	
QB95	23314994	TRANSISTOR, 2SA1576A106	
QB96	23314994	TRANSISTOR, 2SA1576A106	
QF01	23009431	IC, TELETEXT DECODER MICRO SDA6001 B12	
QF02	23906770	IC, BA033FP	
QF03	23000904	IC, REGULATOR +2.5V TO252-3 BA25BC0FP	
QF04	23009595	IC, SDRAM PC133 IC42S16400-7TT/R	
QF05	23009114	IC, BD4746G	
QF06	23314993	TRANSISTOR, 2SC4081 Q	
QF07	70114402	TRANSISTOR, 2SC3437-Y	
QF08	23314993	TRANSISTOR, 2SC4081 Q	
QF09	23205014	TRANSISTOR, 2SC4667-O	
QF10	23314558	TRANSISTOR, 2SA1610, Y34	
QF11	23314558	TRANSISTOR, 2SA1610, Y34	
QF12	23314558	TRANSISTOR, 2SA1610, Y34	
QF13	23009275	IC, ROM 256KX16BIT FLASH ROM MX29LV400BTC-70	
QF14	23009500	IC, ROM 512KX16BIT FLASH WR2 X29LV800TMC-70-WR2	
QF15	23314994	TRANSISTOR, 2SA1576A106	
QF16	23314993	TRANSISTOR, 2SC4081 Q	
QF21	23114501	TRANSISTOR, RN1402	
QF24	23205099	TRANSISTOR, FET VDSS=60V RK7002	
QF25	23205099	TRANSISTOR, FET VDSS=60V RK7002	
QF27	23314993	TRANSISTOR, 2SC4081 Q	
QG01	23135014	IC, HYBRID VDSS=650V STR-G5551	
QG01B	23035308	SCREW, 3X8MM, TAPPING	
QG36	23314141	TRANSISTOR, 2SC3852	
QG36B	23035308	SCREW, 3X8MM, TAPPING	
QG37	23314791	TRANSISTOR, 2PA1015Y	
QG38	23314794	TRANSISTOR, 2PC1815Y	
QR02	23906666	IC, TA1287F(EL)	
QR03	23314993	TRANSISTOR, 2SC4081 Q	
QR04	23314993	TRANSISTOR, 2SC4081 Q	
QR05	23314993	TRANSISTOR, 2SC4081 Q	
QR06	23314993	TRANSISTOR, 2SC4081 Q	
QR07	23114501	TRANSISTOR, RN1402	
QS01	70114396	TRANSISTOR, 2SC3326B	
QS02	70114396	TRANSISTOR, 2SC3326B	
QS03	23314993	TRANSISTOR, 2SC4081 Q	
QS04	23314993	TRANSISTOR, 2SC4081 Q	
QS05	70114396	TRANSISTOR, 2SC3326B	
QS06	70114396	TRANSISTOR, 2SC3326B	
QS07	70114396	TRANSISTOR, 2SC3326B	
QS08	70114396	TRANSISTOR, 2SC3326B	
QS09	23114493	TRANSISTOR, RN2404	
QS14	70114396	TRANSISTOR, 2SC3326B	
QS15	70129558	IC, MM1231XF	
QS16	23314993	TRANSISTOR, 2SC4081 Q	
QV01	23906887	IC, CXA2069Q	
QV02	23314993	TRANSISTOR, 2SC4081 Q	
QV03	23314993	TRANSISTOR, 2SC4081 Q	
QV04	23314993	TRANSISTOR, 2SC4081 Q	

Location No.	Parts No.	Description	Block
QV06	23314994	TRANSISTOR, 2SA1576A106	
QV09	23314794	TRANSISTOR, 2PC1815Y	
QV12	23314794	TRANSISTOR, 2PC1815Y	
QV14	23314794	TRANSISTOR, 2PC1815Y	
QV15	23314993	TRANSISTOR, 2SC4081 Q	
QV16	70128711	IC, SW 2IN 1OUT 3CIRCUIT ALLCLP BA7603F	
QV17	23318981	IC, MC14053BF	
QV21	23314994	TRANSISTOR, 2SA1576A106	
QV22	23314993	TRANSISTOR, 2SC4081 Q	
QZ01	23009303	IC, CMOS MULTI COMB SOP16 TDA9181T/N1, 118	
QZ03	23314994	TRANSISTOR, 2SA1576A106	
QZ04	23314994	TRANSISTOR, 2SA1576A106	
QZ05	23314994	TRANSISTOR, 2SA1576A106	
QZ06	23314994	TRANSISTOR, 2SA1576A106	
QZ09	23314993	TRANSISTOR, 2SC4081 Q	
QZ10	23314994	TRANSISTOR, 2SA1576A106	
QZ12	23314993	TRANSISTOR, 2SC4081 Q	
D101	23316755	DIODE, ZENER, MTZJ33C	
D216	23316688	DIODE, ZENER, MTZJ9.1C	
D218	23316688	DIODE, ZENER, MTZJ9.1C	
D220	23316688	DIODE, ZENER, MTZJ9.1C	
D272	23118041	DIODE, MA111	
D301	23357165	DIODE, ZENER, UDZS7.5B	
D302	23357366	DIODE, FR105-B5	
D304	23316794	DIODE, SC570A	
D305	23118822	DIODE, ERB12-02	
D306	23118822	DIODE, ERB12-02	
D307	23118522	DIODE, ZENER, RD7.5ES-B3	
D350	23357366	DIODE, FR105-B5	
D370	23316231	DIODE, 1SS355	
D378	23316231	DIODE, 1SS355	
D401	23118056	DIODE, AG01	
D402	23357366	DIODE, FR105-B5	
D404	23316254	DIODE, ERC06-15	
D406	23115910	DIODE, S5295G	
D411	23316731	DIODE, ZENER, MTZJ18B	
D412	23118707	DIODE, RP-1H	
D413	23118707	DIODE, RP-1H	
D414	23357366	DIODE, FR105-B5	
D415	23357366	DIODE, FR105-B5	
D418	23316755	DIODE, ZENER, MTZJ33C	
D419	23316231	DIODE, 1SS355	
D421	23357366	DIODE, FR105-B5	
D425	23357366	DIODE, FR105-B5	
D426	23118499	DIODE, ZENER, RD18ESA B2	
D461	23224366	DIODE, FMQ-3GU	
D461B	23035308	SCREW, 3X8MM, TAPPING	
D502	23118041	DIODE, MA111	
D505	23115599	DIODE, 1N4148	
D506	23316673	DIODE, ZENER, MTZJ5.6C	
D511	23357037	DIODE, ZENER, UDZS5.6B	
D514	23357037	DIODE, ZENER, UDZS5.6B	
D515	23357037	DIODE, ZENER, UDZS5.6B	
D520	23118641	DIODE, ZENER, RD2.0ESA B2	
D544	23357172	DIODE, ZENER, UDZS10B	
D545	23357172	DIODE, ZENER, UDZS10B	
D601	23316231	DIODE, 1SS355	
D602	23316231	DIODE, 1SS355	
D603	23316231	DIODE, 1SS355	
D604	23316231	DIODE, 1SS355	
D605	23316231	DIODE, 1SS355	
D606	23316231	DIODE, 1SS355	
D607	23316231	DIODE, 1SS355	
D608	23316231	DIODE, 1SS355	
D609	23316231	DIODE, 1SS355	

Location No.	Parts No.	Description	Block
D610	23316231	DIODE, 1SS355	
D611	23316231	DIODE, 1SS355	
D612	23316231	DIODE, 1SS355	
D613	23316231	DIODE, 1SS355	
D614	23316231	DIODE, 1SS355	
D628	23316739	DIODE, ZENER, MTZJ22C	
D660	23316719	DIODE, ZENER, MTZJ12B	
D704	23115599	DIODE, 1N4148	
D705	23115599	DIODE, 1N4148	
D715	23115599	DIODE, 1N4148	
D721	23115599	DIODE, 1N4148	
D761	23115599	DIODE, 1N4148	
D762	23115599	DIODE, 1N4148	
D763	23115599	DIODE, 1N4148	
D764	23115599	DIODE, 1N4148	
D781	23115599	DIODE, 1N4148	
D782	23115599	DIODE, 1N4148	
D783	23115599	DIODE, 1N4148	
D784	23115599	DIODE, 1N4148	
D890	23357365	DIODE, 1N4004A-B5	
D891	23357365	DIODE, 1N4004A-B5	
D892	23357365	DIODE, 1N4004A-B5	
D896	23357365	DIODE, 1N4004A-B5	
D901	23115599	DIODE, 1N4148	
D902	23115599	DIODE, 1N4148	
D911	23115599	DIODE, 1N4148	
D912	23115599	DIODE, 1N4148	
D921	23115599	DIODE, 1N4148	
D922	23115599	DIODE, 1N4148	
D931	23115599	DIODE, 1N4148	
D932	23115599	DIODE, 1N4148	
D933	23115599	DIODE, 1N4148	
D934	23115599	DIODE, 1N4148	
D936	23115337	DIODE, 1S1834	
D941	23115599	DIODE, 1N4148	
D942	23115599	DIODE, 1N4148	
D943	23115599	DIODE, 1N4148	
D945	23115337	DIODE, 1S1834	
D946	23115599	DIODE, 1N4148	
D963	23115599	DIODE, 1N4148	
D964	23115599	DIODE, 1N4148	
D965	23115599	DIODE, 1N4148	
D966	23115599	DIODE, 1N4148	
D967	23115337	DIODE, 1S1834	
D4401	23316231	DIODE, 1SS355	
D4402	23316231	DIODE, 1SS355	
D4430	23115532	DIODE, ERB12-01	
D4431	23316715	DIODE, ZENER, MTZJ11A	
D4451	23115532	DIODE, ERB12-01	
D4452	23357170	DIODE, ZENER, UDZS8.2B	
D4453	23316231	DIODE, 1SS355	
D7703	23115532	DIODE, ERB12-01	
D7705	23316231	DIODE, 1SS355	
D7706	23316231	DIODE, 1SS355	
D7707	23316231	DIODE, 1SS355	
D7708	23316231	DIODE, 1SS355	
D7717	23316675	DIODE, ZENER, MTZJ6.2B	
D7718	23316675	DIODE, ZENER, MTZJ6.2B	
D7729	23316738	DIODE, ZENER, MTZJ22B	
D7730	23316675	DIODE, ZENER, MTZJ6.2B	
D7731	23316675	DIODE, ZENER, MTZJ6.2B	
D7732	23115532	DIODE, ERB12-01	
D7733	23316731	DIODE, ZENER, MTZJ18B	
D7734	23316731	DIODE, ZENER, MTZJ18B	
D7735	23115532	DIODE, ERB12-01	
D7806	23316231	DIODE, 1SS355	
D7808	23118094	DIODE, EU2A	

Location No.	Parts No.	Description	Block
D7809	23316231	DIODE, 1SS355	
D7810	23118052	DIODE, RU4Z LF-L1	
D7811	23316231	DIODE, 1SS355	
D7820	23118056	DIODE, AG01	
DA02	23316231	DIODE, 1SS355	
DA03	23316231	DIODE, 1SS355	
DA42	23316673	DIODE, ZENER, MTZJ5.6C	
DA50	23316673	DIODE, ZENER, MTZJ5.6C	
DB01	23358564	DIODE, LED, SLR-56VC3FPQ	
DB02	23358563	DIODE, LED, SLR-56MC3FPQR	
DG02	23316711	DIODE, S1WBA60	
DG03	23357366	DIODE, FR105-B5	
DG10	23357366	DIODE, FR105-B5	
DG11	23316746	DIODE, ZENER, MTZJ27B	
DG12	23316672	DIODE, ZENER, MTZJ5.6B	
DG13	23316746	DIODE, ZENER, MTZJ27B	
DG21	23118057	DIODE, AG01A	
DG25	23118052	DIODE, RU4Z LF-L1	
DG27	23316673	DIODE, ZENER, MTZJ5.6C	
DR01	23316231	DIODE, 1SS355	
DR02	23316231	DIODE, 1SS355	
DR03	23316231	DIODE, 1SS355	
DR04	23316231	DIODE, 1SS355	
DR05	23316231	DIODE, 1SS355	
DR12	23357172	DIODE, ZENER, UDZS10B	
DR13	23357172	DIODE, ZENER, UDZS10B	
DR14	23357172	DIODE, ZENER, UDZS10B	
DR70	23357037	DIODE, ZENER, UDZS5.6B	
DR71	23357037	DIODE, ZENER, UDZS5.6B	
DS01	23357172	DIODE, ZENER, UDZS10B	
DS02	23357172	DIODE, ZENER, UDZS10B	
DS03	23357172	DIODE, ZENER, UDZS10B	
DS04	23357172	DIODE, ZENER, UDZS10B	
DS11	23118041	DIODE, MA111	
DS13	23316231	DIODE, 1SS355	
DS14	23316231	DIODE, 1SS355	
DV02	23357172	DIODE, ZENER, UDZS10B	
DV04	23357172	DIODE, ZENER, UDZS10B	
DV05	23357172	DIODE, ZENER, UDZS10B	
DV06	23357172	DIODE, ZENER, UDZS10B	
DV07	23357172	DIODE, ZENER, UDZS10B	
DV08	23357172	DIODE, ZENER, UDZS10B	
DV09	23357172	DIODE, ZENER, UDZS10B	
DV11	23357172	DIODE, ZENER, UDZS10B	
DV12	23357172	DIODE, ZENER, UDZS10B	
DV14	23357171	DIODE, ZENER, UDZSTE-17 9.1B	
DV15	23357172	DIODE, ZENER, UDZS10B	
DV16	23357037	DIODE, ZENER, UDZS5.6B	
DV17	23357037	DIODE, ZENER, UDZS5.6B	
DV18	23357037	DIODE, ZENER, UDZS5.6B	
DV19	23357037	DIODE, ZENER, UDZS5.6B	
DV20	23357037	DIODE, ZENER, UDZS5.6B	
DV21	23357037	DIODE, ZENER, UDZS5.6B	
DV22	23357172	DIODE, ZENER, UDZS10B	
MISCELLANEOUS			
B224	23035412	SCREW	
B230	23037312	SCREW	
B231	23845856	WIRE CLAMP, POF COAT) L=70MM	
B232	23035412	SCREW	
B233	23035412	SCREW	
B234	23037312	SCREW	
B235	23037312	SCREW	
B236	23037312	SCREW	
B237	23037312	SCREW	
B238	23037312	SCREW	
B240	23035412	SCREW	

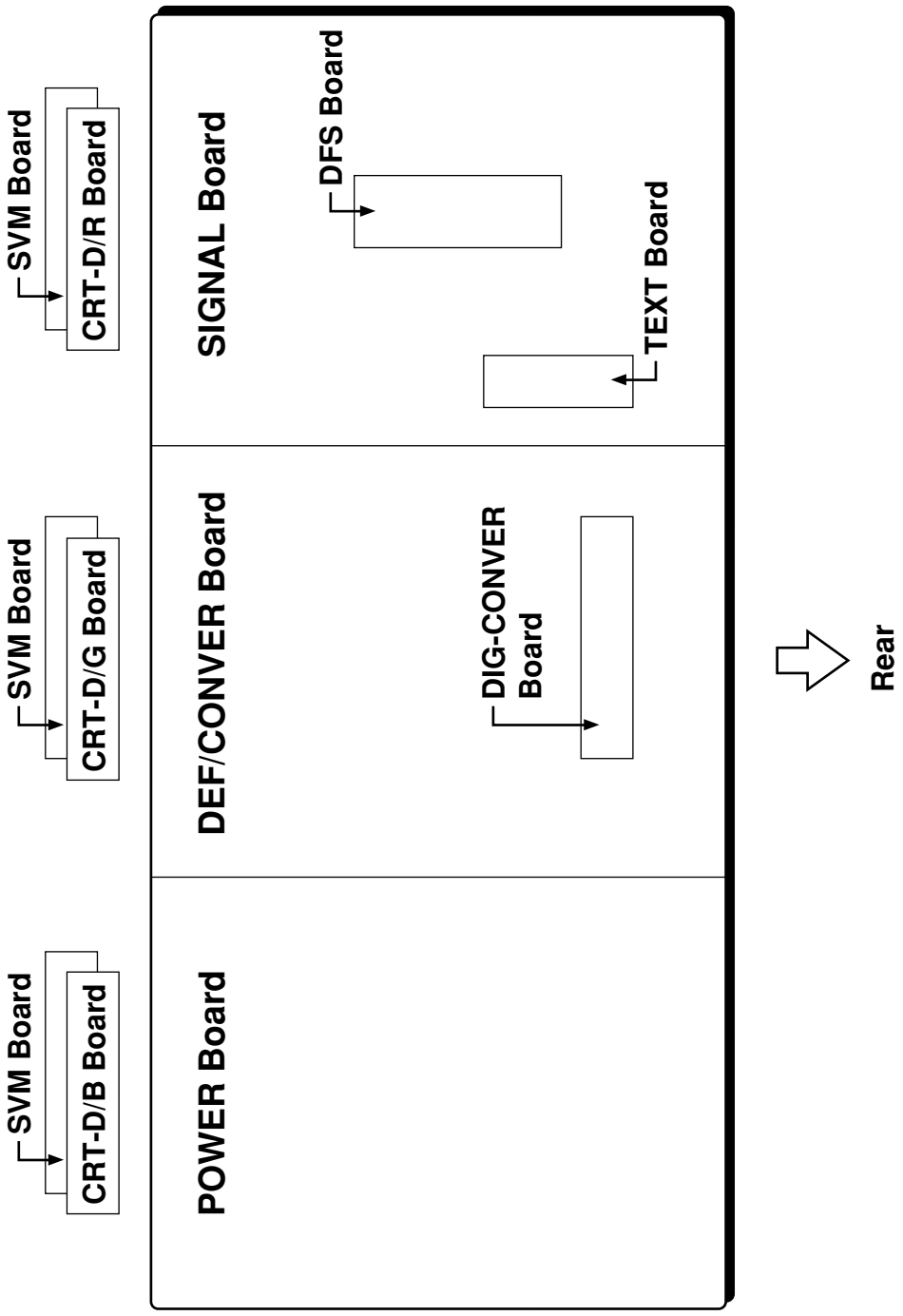
Location No.	Parts No.	Description	Block
B241	23035412	SCREW	
BB21A	23713013	CONNECTOR, SOCKET, B-B 16P 1.5	
BB21B	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5	
BB22A	23713013	CONNECTOR, SOCKET, B-B 16P 1.5	
BB22B	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5	
BB23A	23713013	CONNECTOR, SOCKET, B-B 16P 1.5	
BB23B	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5	
BB24A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST	
BB24B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST	
BB24C	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E	
BB80B	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5	
BB82B	23713014	CONNECTOR, BRIDGE PLUG 16P 1.5	
BB83A	23903022	CONNECTOR, BASE B-B 8P 2.5 JST	
BB83B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST	
BB83C	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E	
BB85B	23903022	CONNECTOR, BASE B-B 8P 2.5 JST	
BB85C	23368627	CONNECTOR, BRIDGE B-B 8P 2.5JST 08TM-2.5FJ-E	
E921	23964147	COOLANT, COOLANT	
E929	23969684	TAPE, GLASS-CLOTH, W/ADHESIVE W=90 T=0.18	
E951	23964147	COOLANT, COOLANT	
E959	23969684	TAPE, GLASS-CLOTH, W/ADHESIVE W=90 T=0.18	
E981	23964147	COOLANT, COOLANT	
E989	23969684	TAPE, GLASS-CLOTH, W/ADHESIVE W=90 T=0.18	
GA01	23103828	INDUCTOR, BEAD, TEM2121M	
GA02	23103828	INDUCTOR, BEAD, TEM2121M	
GA06	23103828	INDUCTOR, BEAD, TEM2121M	
GA07	23103828	INDUCTOR, BEAD, TEM2121M	
GA08	23103828	INDUCTOR, BEAD, TEM2121M	
GA10	23103828	INDUCTOR, BEAD, TEM2121M	
GA21	23103828	INDUCTOR, BEAD, TEM2121M	
GA22	23103828	INDUCTOR, BEAD, TEM2121M	
GC01	24000445	CHIP JUMPER, 1608TYPE	
GC02	24000445	CHIP JUMPER, 1608TYPE	
GC03	24000445	CHIP JUMPER, 1608TYPE	
GC04	24000445	CHIP JUMPER, 1608TYPE	
GC20	24000445	CHIP JUMPER, 1608TYPE	
GJ07	24000445	CHIP JUMPER, 1608TYPE	
GJ105	24000445	CHIP JUMPER, 1608TYPE	
GJ12	24000445	CHIP JUMPER, 1608TYPE	
GJ44	24000445	CHIP JUMPER, 1608TYPE	
GJ46	24000445	CHIP JUMPER, 1608TYPE	
GJ47	24000445	CHIP JUMPER, 1608TYPE	
GJ48	24000445	CHIP JUMPER, 1608TYPE	
GJ49	24000445	CHIP JUMPER, 1608TYPE	
GJ50	24000445	CHIP JUMPER, 1608TYPE	
GJ601	24000445	CHIP JUMPER, 1608TYPE	
GJ603	24000445	CHIP JUMPER, 1608TYPE	
GJ604	24000445	CHIP JUMPER, 1608TYPE	
GJ701	24000445	CHIP JUMPER, 1608TYPE	
GJ702	24000445	CHIP JUMPER, 1608TYPE	
GJ703	24000445	CHIP JUMPER, 1608TYPE	
GJ710	24000445	CHIP JUMPER, 1608TYPE	
GL01	23103859	FILTER, FERRITE CHOKE, TEM2011	
GL02	23103859	FILTER, FERRITE CHOKE, TEM2011	
GR05	24000445	CHIP JUMPER, 1608TYPE	
GR07	24000445	CHIP JUMPER, 1608TYPE	
GR401	24000445	CHIP JUMPER, 1608TYPE	
GV03	24011101	CHIP, METAL FILM, 1/20W 100 OH	
GV04	24011101	CHIP, METAL FILM, 1/20W 100 OH	
GV06	24011101	CHIP, METAL FILM, 1/20W 100 OH	
GV08	24011101	CHIP, METAL FILM, 1/20W 100 OH	

Location No.	Parts No.	Description	Block
GV09	24011101	CHIP, METAL FILM, 1/20W 100 OH	
GV35	24011101	CHIP, METAL FILM, 1/20W 100 OH	
GV42	24011331	CHIP, METAL FILM, 1/20W 330 OH	
H002	23148745	MODULE, NICAM/IGR A-PRO MPSN11C	
KB01	23000852	IC, REMOTE PHOTO RECEIVER, PIC-37043TE2	
P605A	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
P605B	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
P661	23365444	EARPONE JACK, D3.5 HOSIDEN	
P708	23902655	CONNECTOR, B-B 15P	
P708A	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
P708B	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
P709	23902655	CONNECTOR, B-B 15P	
P709A	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
P709B	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
⚠ P801	23372151	POWER CORD, AC250V3A L/FUSE13A GB13F1 FUSE13A (UK)	
⚠ P801	23372052	POWER CORD, 250V2.5A	
PB12B	23368580	CONNECTOR, PLUG 6P, 2.5MM G JST-EH B6B-EH-F1-TV4	
PF01	23903176	SOCKET, 60P TKD, 136901160W4	
PH01	23165461	TERMINAL, DOUBLE ISA07-SA ISA07-SA	
PH02	23165460	TERMINAL, SINGLE ISA01-A	
PX01	23903176	SOCKET, 60P TKD, 136901160W4	
⚠ S801	23344482	SWITCH, ESB92S NAE ESB92S28B	
SA01	23145226	SWITCH, 1C1P, PUSH	
SA02	23145226	SWITCH, 1C1P, PUSH	
SA03	23145226	SWITCH, 1C1P, PUSH	
SA04	23145226	SWITCH, 1C1P, PUSH	
SA06	23145226	SWITCH, 1C1P, PUSH	
⚠ V901A	23903148	SOCKET, ISH-44S-E ICE #5 ISH-44S-E #5	
⚠ V902A	23903148	SOCKET, ISH-44S-E ICE #5 ISH-44S-E #5	
⚠ V903A	23903148	SOCKET, ISH-44S-E ICE #5 ISH-44S-E #5	
W661	23351183	SPEAKER, SPK1424AM, 160 160 8-OHM 20W	
W662	23351183	SPEAKER, SPK1424AM, 160X160 8-OHM 20W	
X501	23153438	CRYSTAL, 16.200 25PPM 25OHM	
X4402	23153721	CERAMIC RESONATOR, 503KHZ	
X4420	23153721	CERAMIC RESONATOR, 503KHZ	
XA03	23153394	CRYSTAL	
XF01	23153552	CRYSTAL RESONATOR, 6MHZ 50PPM CRYSTAL	
Z401	23140203	SPARK GAP, 2.0-3.0KV C-010, AG20PC152F-L3N	
⚠ Z410	23110841	FOCUS PACK, TPA6030	
⚠ Z450	24083014	COMPOSITE PARTS, CR-BLOCK TPA5011AH	
Z800	23103839	FERRITE CORE, TFE1012	
Z802	23103839	FERRITE CORE, TFE1012	
Z803	23103839	FERRITE CORE, TFE1012	
ZC01Z	23148063	MODULE, D-CONVER MDCE12-S43 MDCE12-S43	
ZG01	23144450	PROTECTOR, PRF2000, 125V, 2.0A	
ZY01	23148027	SCAN CONVERTER MODULE, MDFS03	
PC BOARD ASSEMBLIES			
* U104	23788450	PC BOARD ASSY, TEXT 42WH36P PU PD1100A	
* U901A	23788679	PC BOARD ASSY, CRT-R 43PH36P PU PD1102B1	
* U901B	23788680	PC BOARD ASSY, CRT-G 43PH36P PU PD1102B2	
* U901C	23788681	PC BOARD ASSY, CRT-B 43PH36P PU PD1102B3	
* U901D	23788682	PC BOARD ASSY, SVM-G 43PH36P PU PD1102B4	
* U901E	23788683	PC BOARD ASSY, SVM-R 43PH36P PU PD1102B5	
* U901F	23788684	PC BOARD ASSY, SVM-B 43PH36P PU PD1102B6	
* U902	23788784	PC BOARD ASSY, SIGNAL PU PD1098D	
* U903	23708765	PC BOARD ASSY, POWER PU PD0768B	
* U903A	23788800	PC BOARD ASSY, FRONT IN PU PD0133E1	
* U903B	23788801	PC BOARD ASSY, RMT IN PU PD0133E2	
* U903C	23788802	PC BOARD ASSY, KEY-IND PU PD0133E3	
* U904	23788677	PC BOARD ASSY, DEFCONV PU PD1099B	
* U905	23788451	PC BOARD ASSY, EPGPOWER 42WH36 PU PD1101	
* U907	23788675	PC BOARD ASSY, SYNCHRO 43PH36P PU PD1239	
PICTURE TUBE			
⚠ V911R	23587080	SERVICE KIT, SERVICE KIT CRT-R 50PH36P	
⚠ V912B	23587037	SERVICE KIT, SERVICE KIT KIT 51WH36P CRTB	
⚠ V913G	23587038	SERVICE KIT, SERVICE KIT CRT-G 51WH36P	
TUNER			
H001	23321398	TUNER, TADF4-003A, EURO IF ALPS	
ACCESSORIES			
K902	23306434	REMOCON HAND UNIT IR, CTVPAL CT-90100	
Y101A	23565965	OWNER'S MANUAL, ENGLISH MANUAL ENG 50PH36P	
Y101E	23565966	OWNER'S MANUAL, EURO MANUAL EURO 50PH36	
CABINET PARTS			
A125	23560038	LABEL, ATTENTION SERVICE 48PJ6DB	
A160	23437802	CASTER, CASTOR ASSEMBLY DIP35 3787DB;CASTOR ASSY	
A167	23436776	HANDLE, CABINET HANDLE PJTV COMMON	
A201	23540683	COVER, BEZEL 50PH18P	
A202	23450691	PANEL, CONTROL PANEL 50PH36P 50PH36P	
A213	23428214	DOOR, DOOR 50PH36P 50PH36P	
A214	70368125	PUSH CATCH	
A216	23445710	KNOB, CONTROL KEY 50VJ22P 50VJ22P	
A223	23445517	BUTTON, BUTTON POWER 50PH18P	
A258	23527186	GRILLE, SPK GRILLE ASSY 50A61 50A61	
A268	23530120	COVER, FRONT COVER 61PH18P	
A424	23411919	CABINET, VENTED BACK BOARD 50P 50PH36P	
A501	23035412	SCREW	
A505	72471068	SCREW, 4X12	
A529	23037312	SCREW	
A543	72471068	SCREW, 4X12	
A547	23035010	SCREW, PBI 4X16	
A701	23064894	CARTON, CASE(HSC) 50VJ23P CARTON	
A703	23935910	PACKING, TOP PACKING 50PJ98B 50PJ98B;A995048E	
A708	23935912	PACKING, BOTTOM PACKING 50PJ98 50PJ98B;A995049E	

Location No.	Parts No.	Description	Block
A726	23974753	POLYPROPYLENE BAND, 3327DB	
A727	23974753	POLYPROPYLENE BAND, 3327DB	
K501	23311934	SCREEN, 50KLE LENTICULAR SHEET, SCREEN50KLEL	
K502	23430799	SCREEN, FRENSNEL SHEET, 50KKP	
K601	23430754	MIRROR, 50PJ98B	

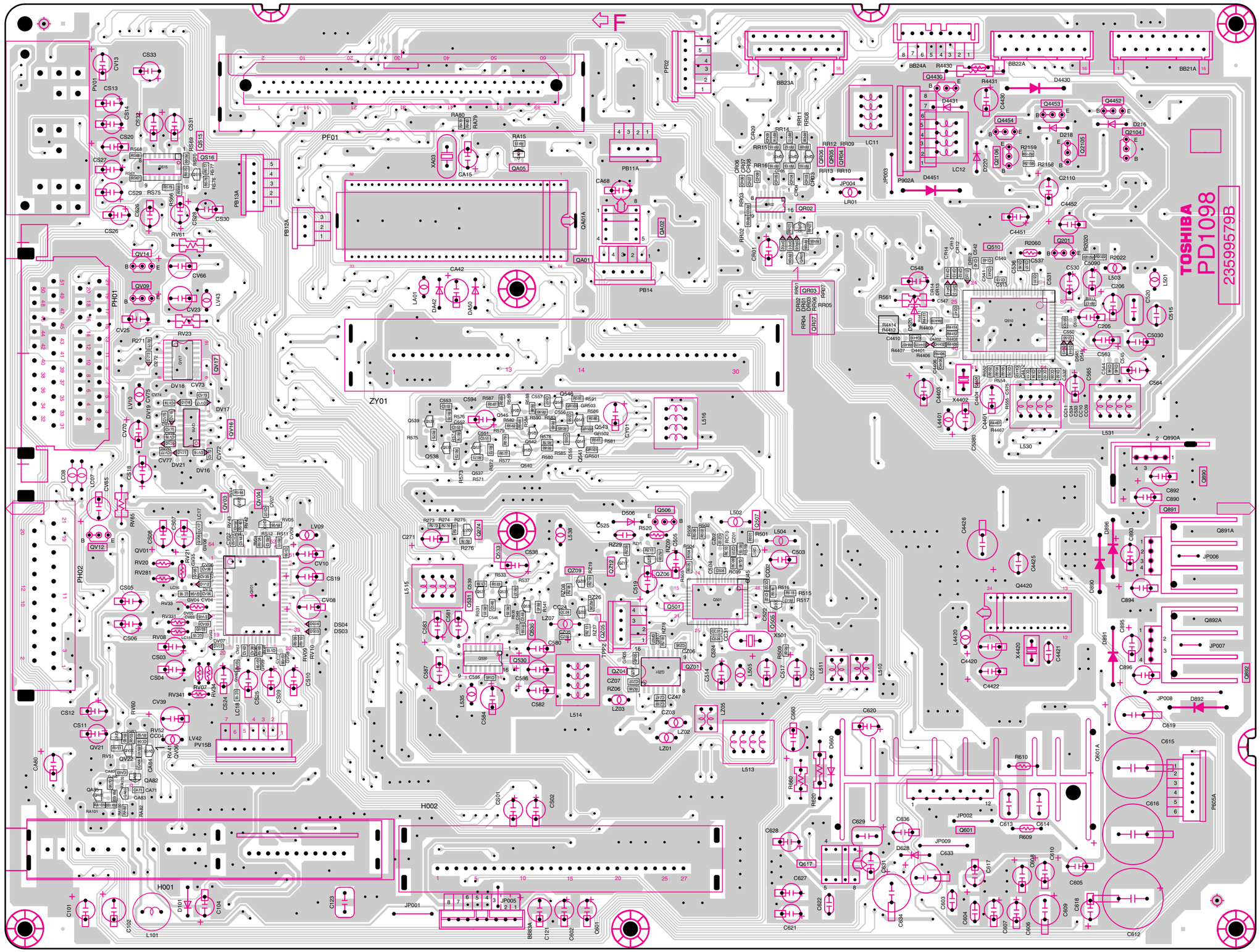
Location No.	Parts No.	Description	Block

PC BOARDS LAYOUT TOP VIEW



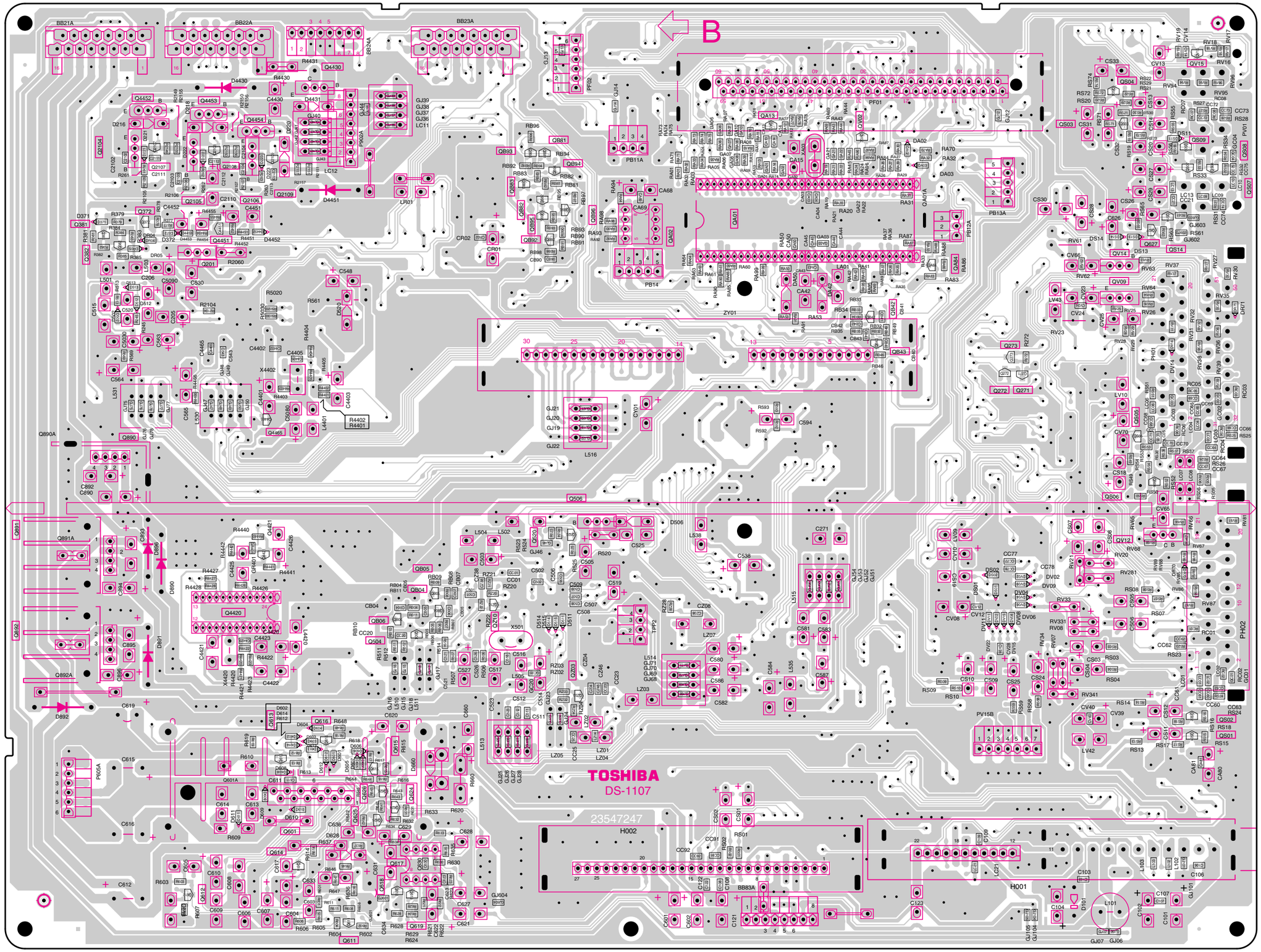
SIGNAL BOARD PD1098A (42”)
SIGNAL BOARD PD1098C (51”)

TOP (FOIL) SIDE



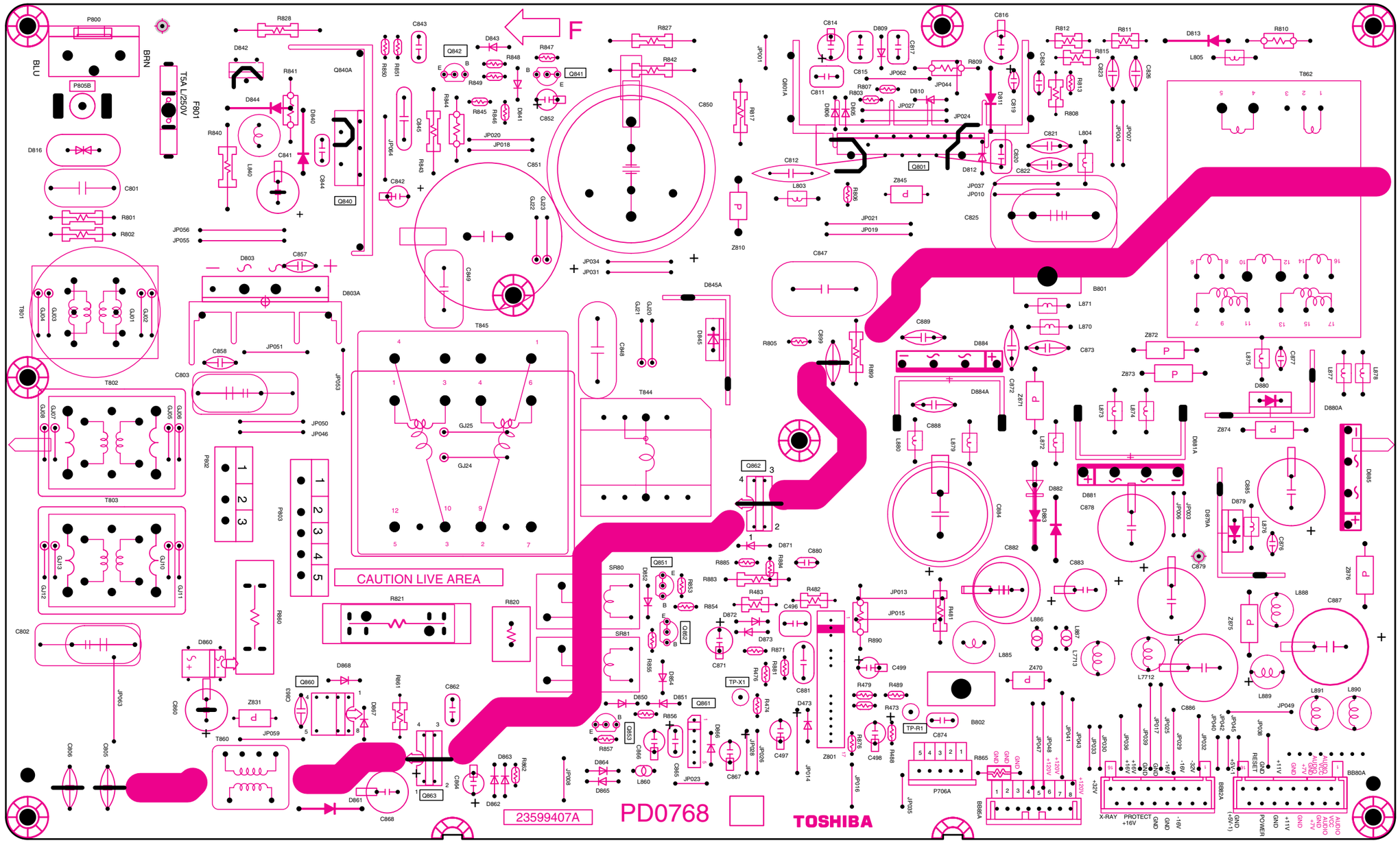
SIGNAL BOARD PD1098A (42”)
SIGNAL BOARD PD1098C (51”)

BOTTOM (FOIL) SIDE



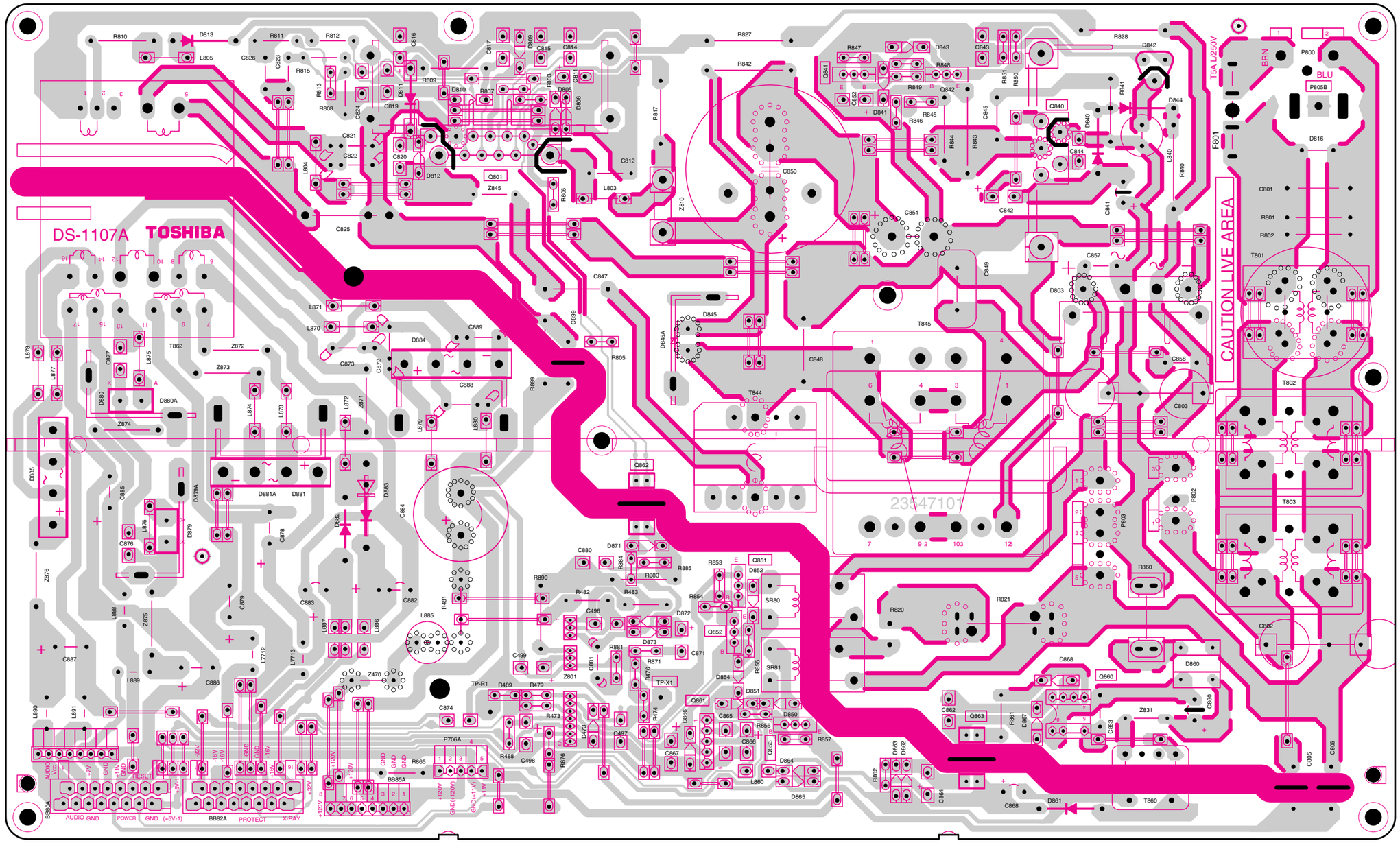
POWER BOARD PD0768B

TOP (FOIL) SIDE



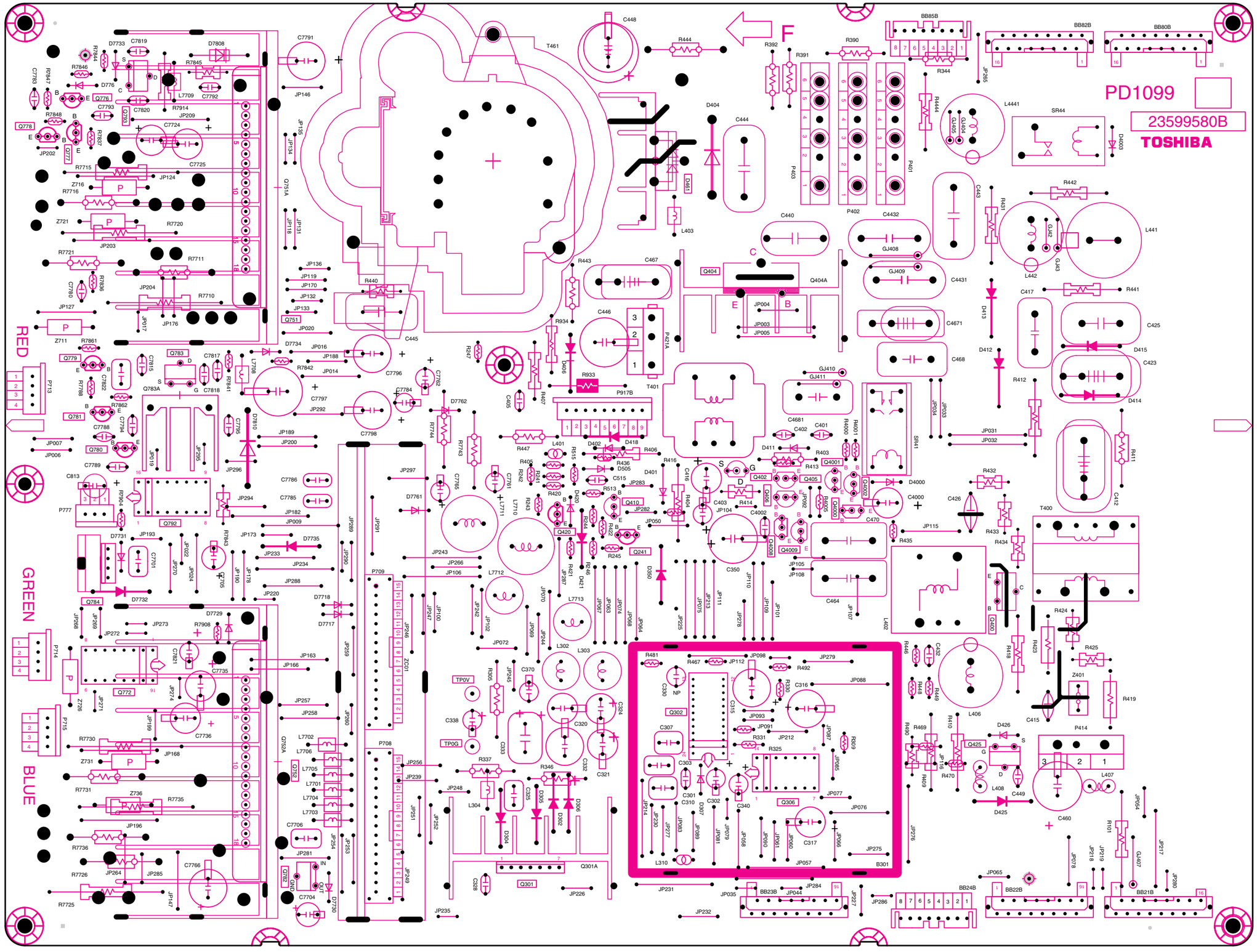
POWER BOARD PD0768B

BOTTOM (FOIL) SIDE



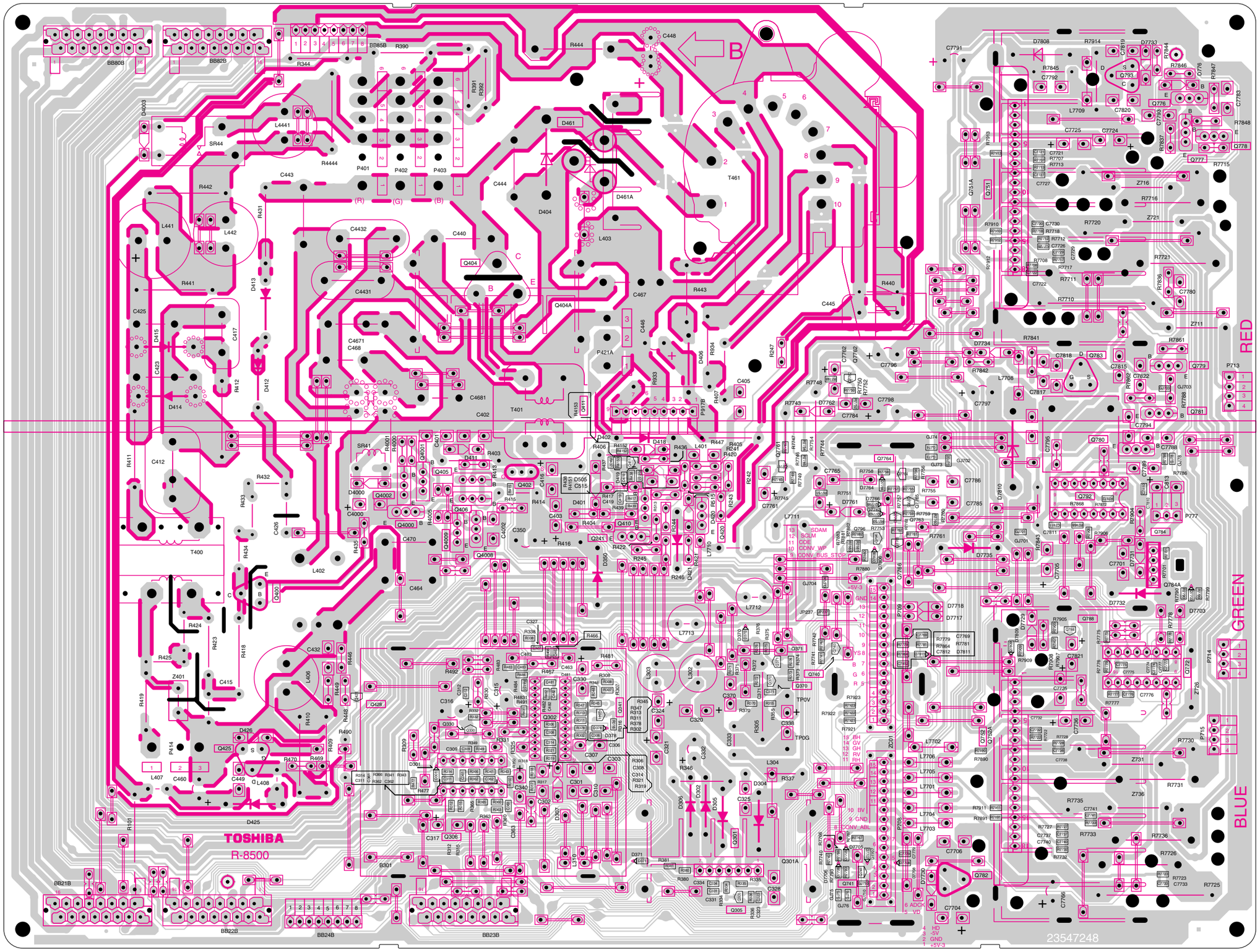
DEF/CONV BOARD PD01099A

TOP (FOIL) SIDE



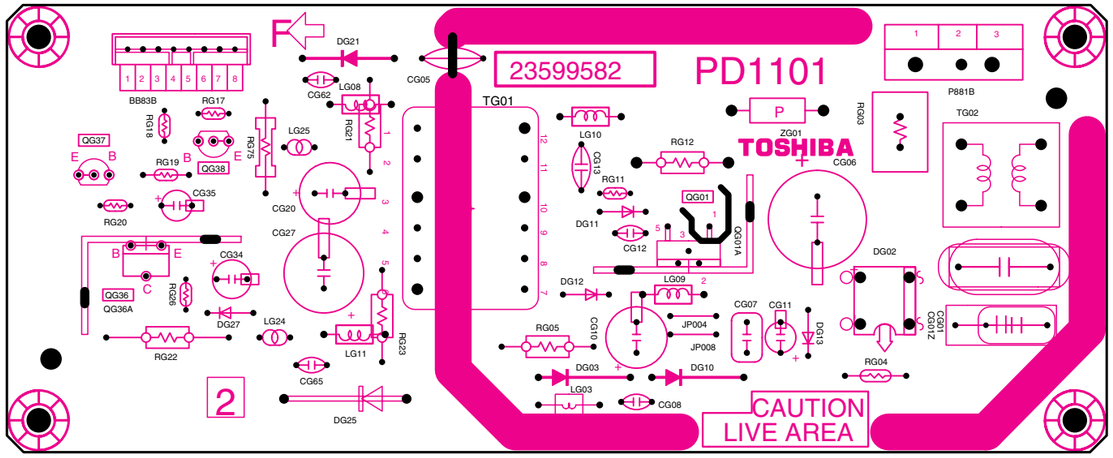
DEF/CONV BOARD PD01099A

BOTTOM (FOIL) SIDE



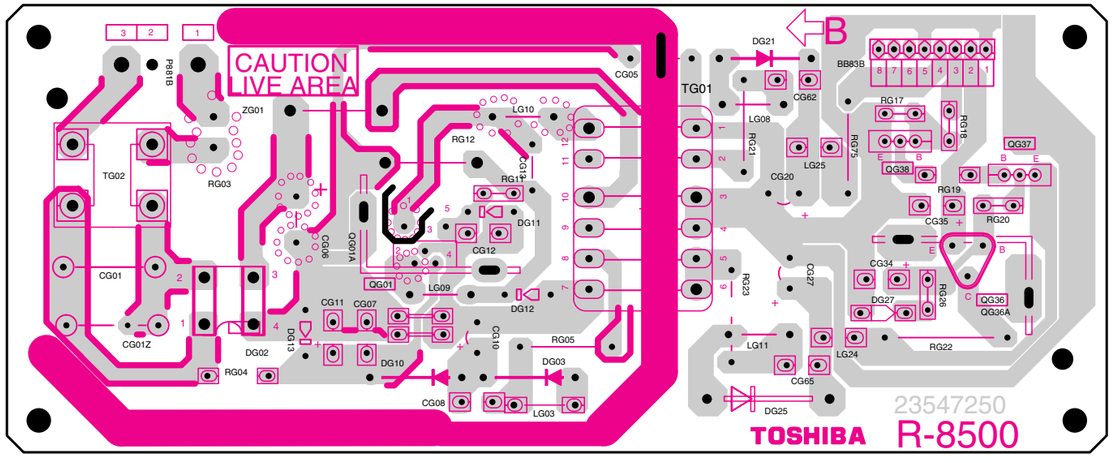
EPG POWER BOARD PD1101

TOP (FOIL) SIDE



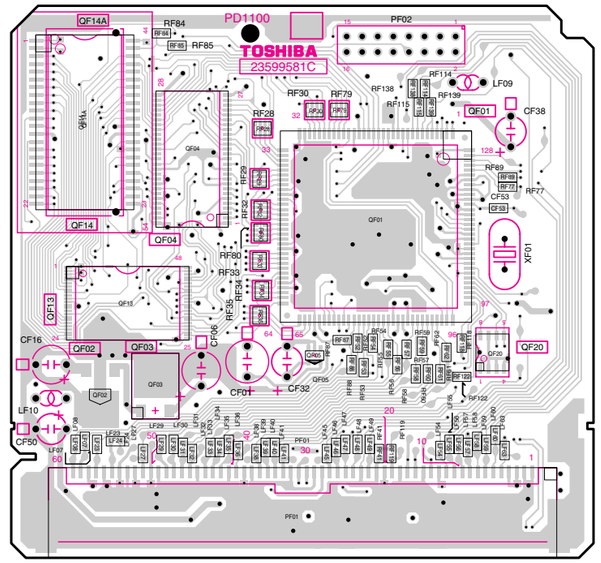
EPG POWER BOARD PD1101

BOTTOM (FOIL) SIDE



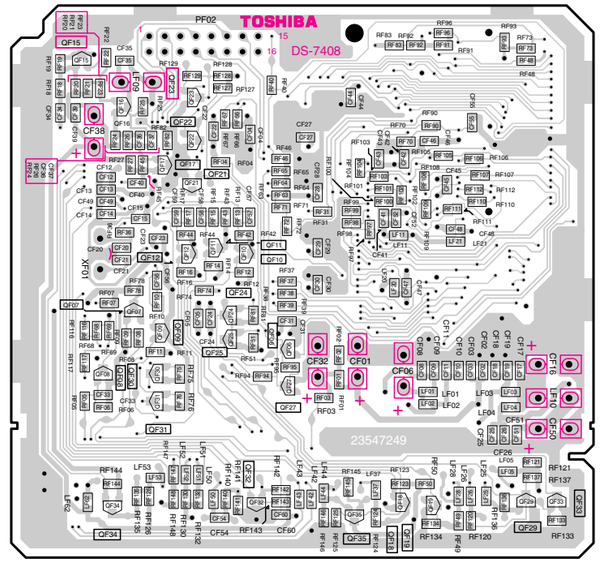
TEXT BOARD PD1100

TOP (FOIL) SIDE



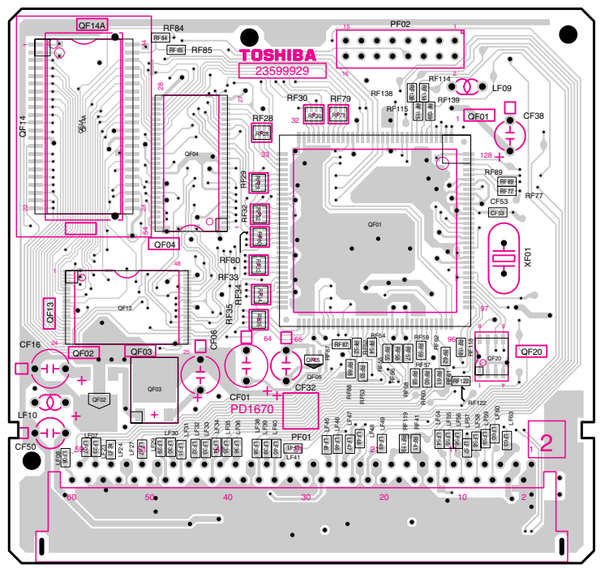
TEXT BOARD PD1100

BOTTOM (FOIL) SIDE



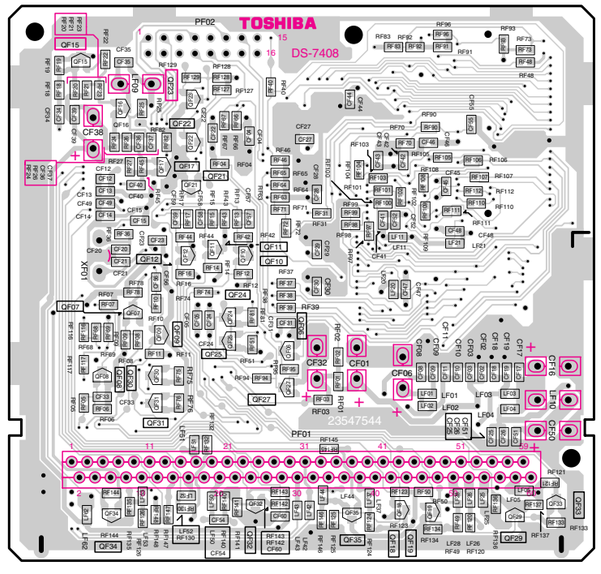
TEXT BOARD PD1670

TOP (FOIL) SIDE



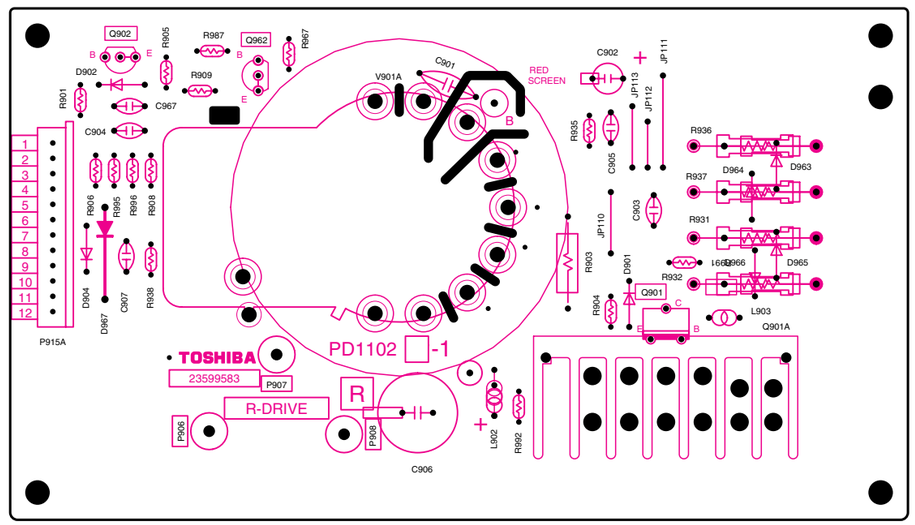
TEXT BOARD PD1670

BOTTOM (FOIL) SIDE



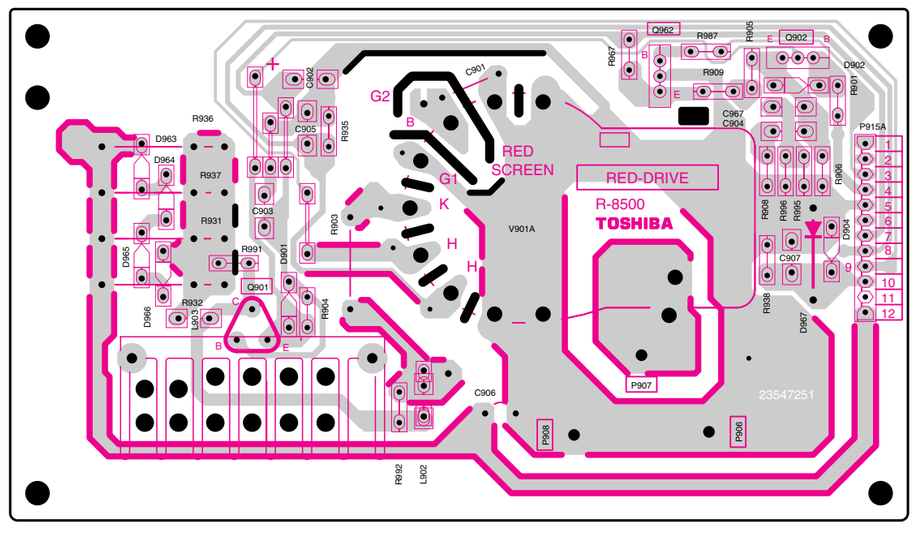
CRT-D BOARD PD1102A-1

TOP (FOIL) SIDE



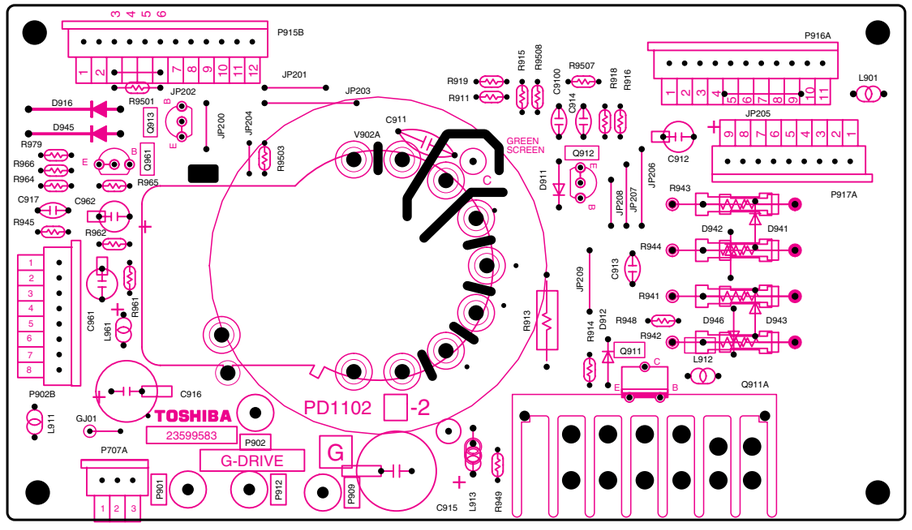
CRT-D BOARD PD1102A-1

BOTTOM (FOIL) SIDE



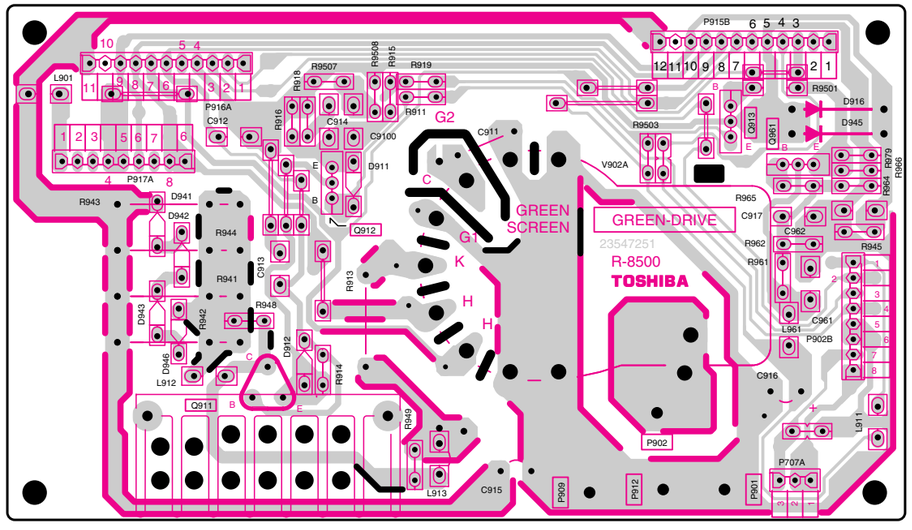
CRT-D BOARD PD01102A-2

TOP (FOIL) SIDE



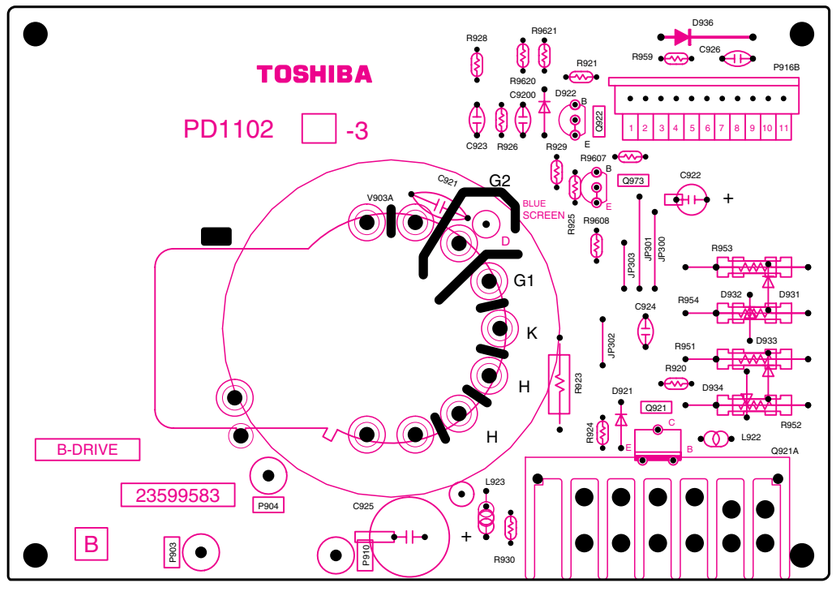
CRT-D BOARD PD01102A-2

BOTTOM (FOIL) SIDE



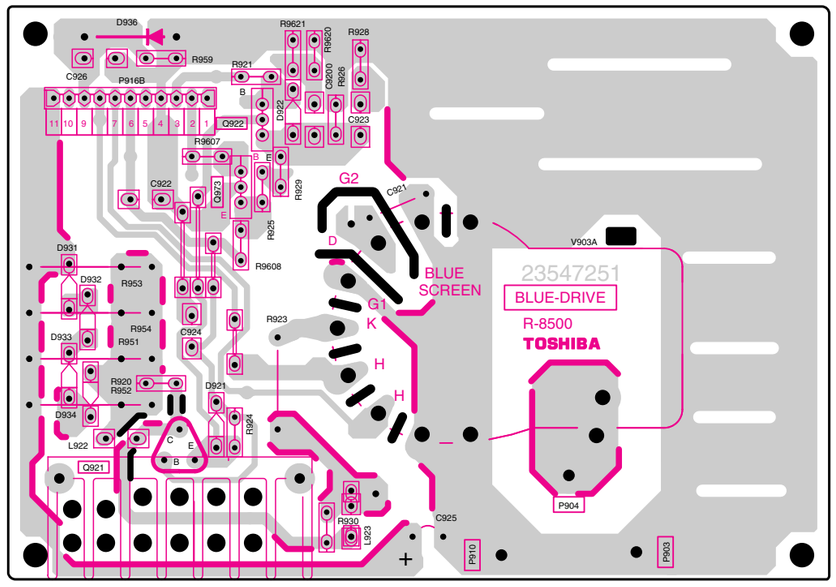
CRT-D BOARD PD1102A-3

TOP (FOIL) SIDE



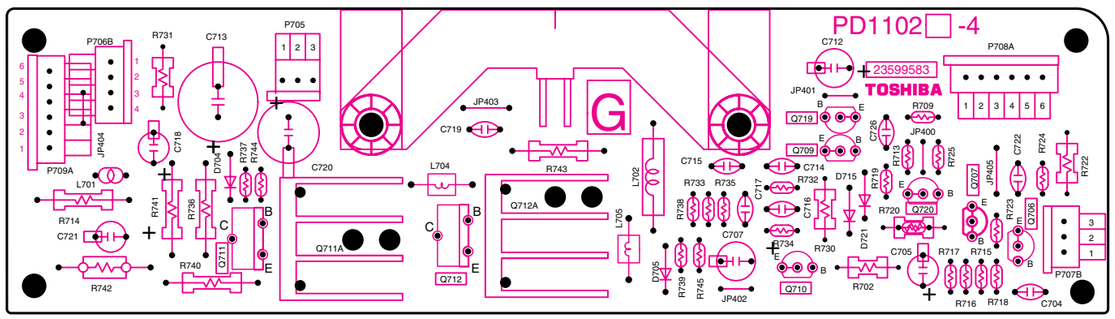
CRT-D BOARD PD1102A-3

BOTTOM (FOIL) SIDE



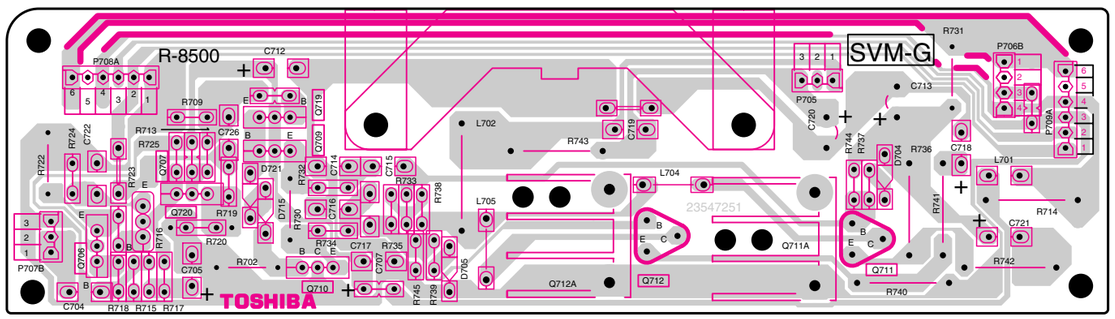
CRT-D BOARD PD1102A-4

TOP (FOIL) SIDE



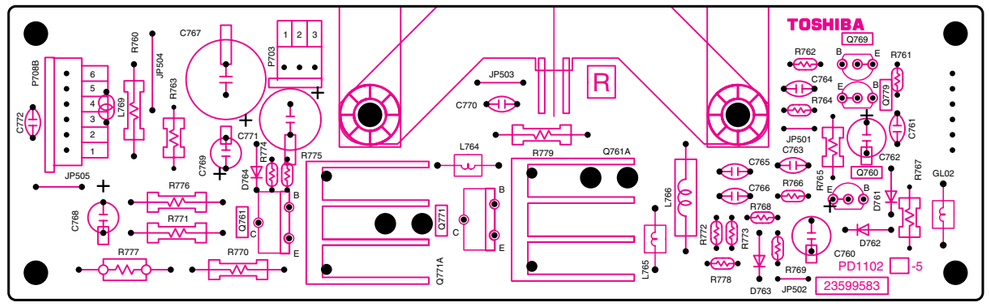
CRT-D BOARD PD1102A-4

BOTTOM (FOIL) SIDE



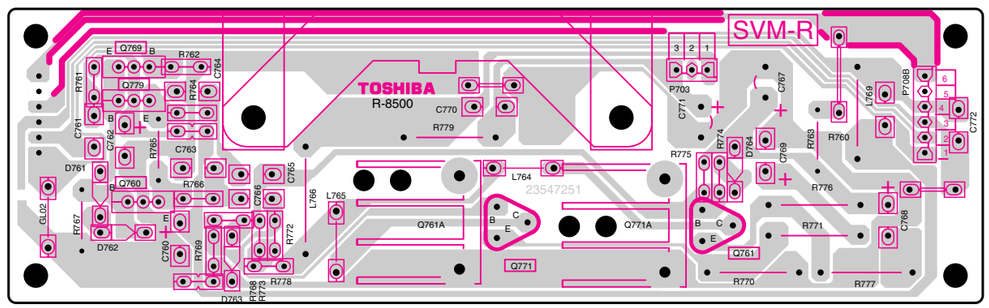
CRT-D BOARD PD1102A-5

TOP (FOIL) SIDE



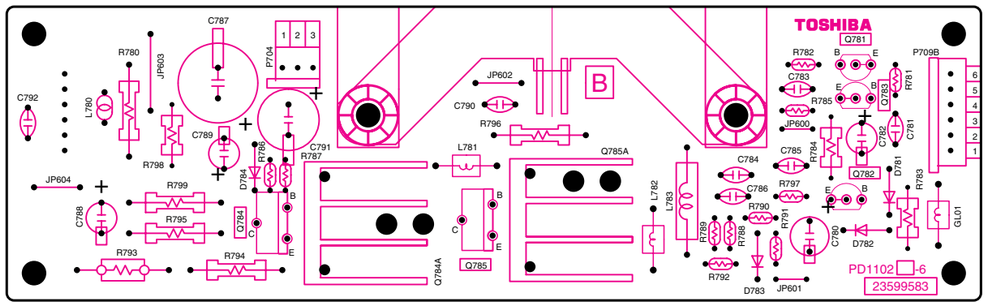
CRT-D BOARD PD1102A-5

BOTTOM (FOIL) SIDE



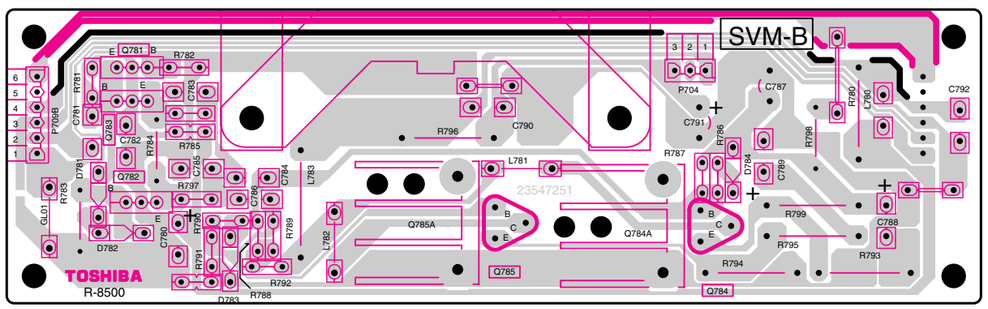
CRT-D BOARD PD1102A-6

TOP (FOIL) SIDE



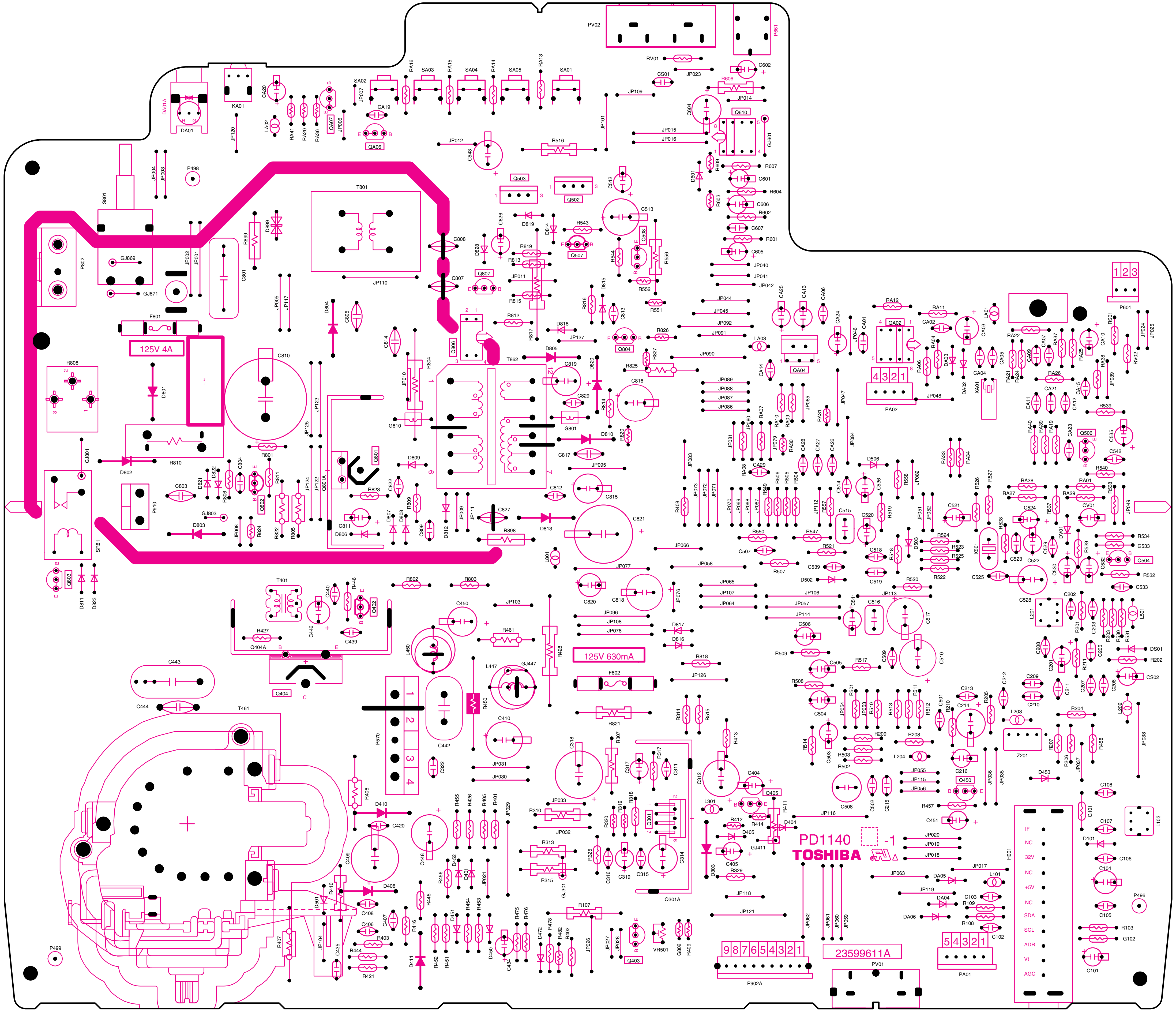
CRT-D BOARD PD1102A-6

BOTTOM (FOIL) SIDE



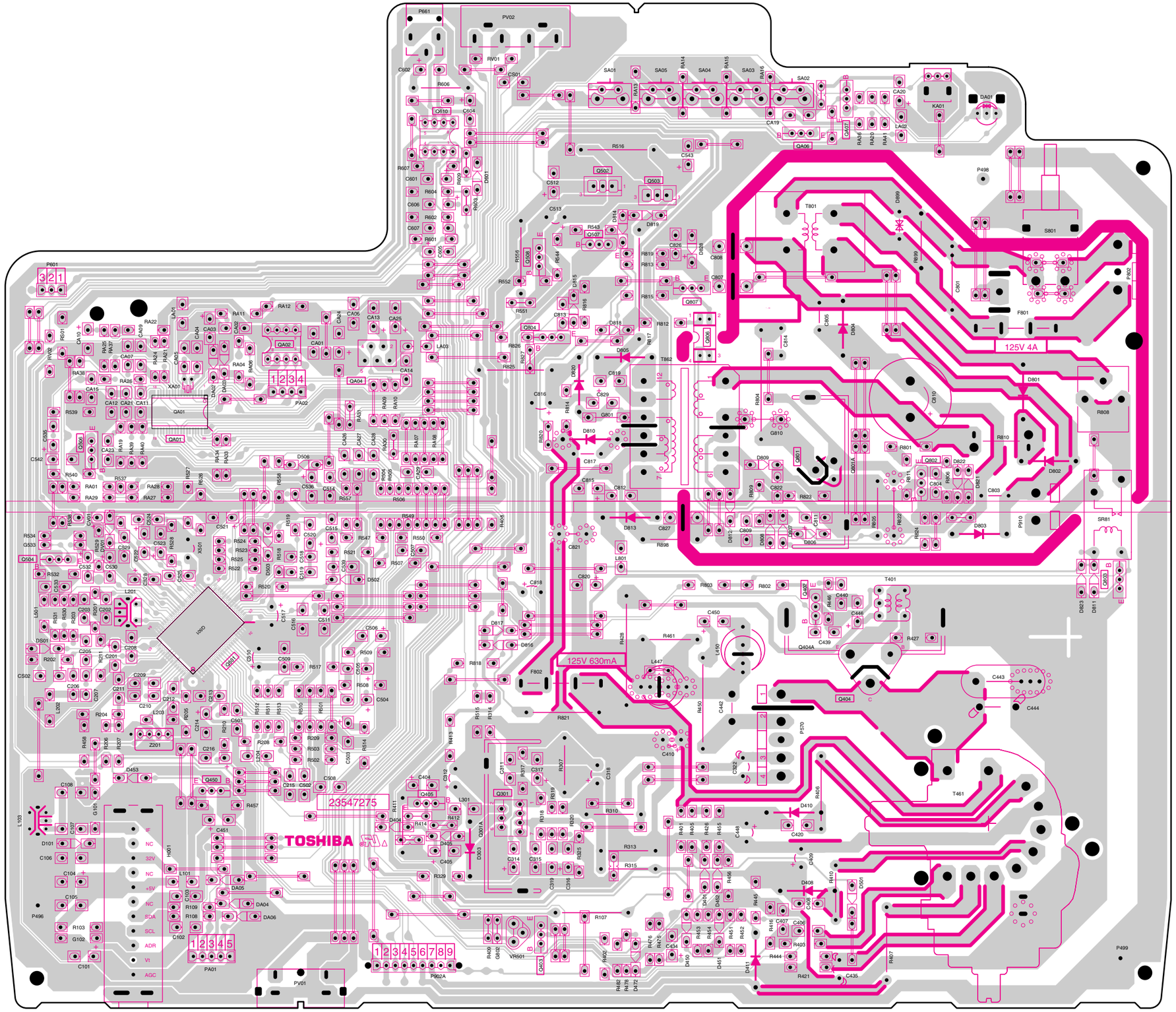
FRONT IN BOARD PD1140-1

TOP (FOIL) SIDE



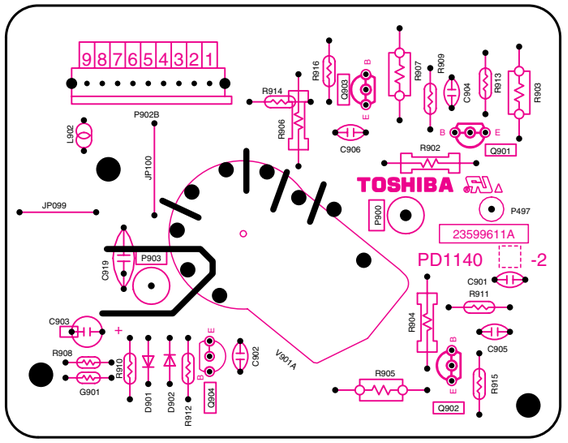
FRONT IN BOARD PD1140-1

BOTTOM (FOIL) SIDE



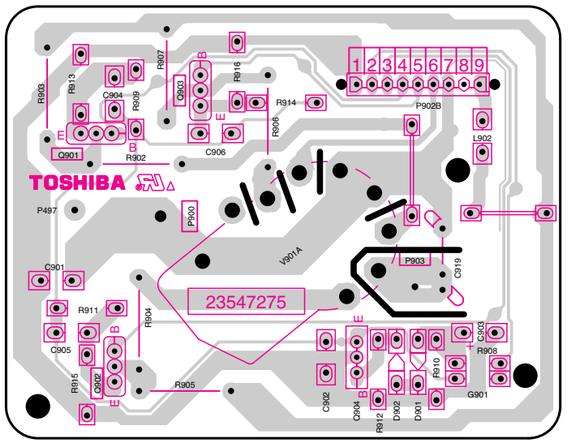
FRONT IN BOARD PD1140-2

TOP (FOIL) SIDE



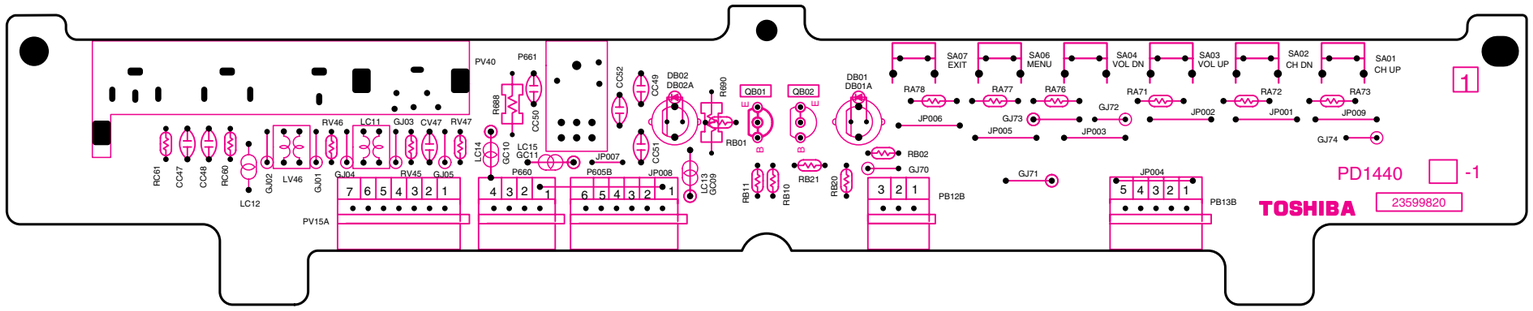
FRONT IN BOARD PD1140-2

BOTTOM (FOIL) SIDE



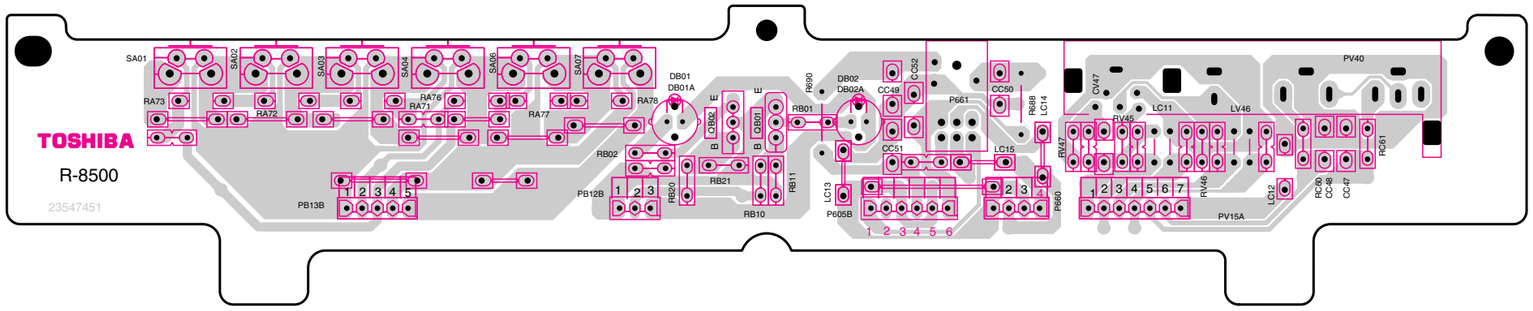
FRONT IN BOARD PD1440-1

FRONT (FOIL) SIDE



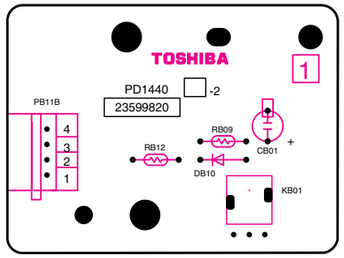
FRONT IN BOARD PD1440-1

BOTTOM (FOIL) SIDE



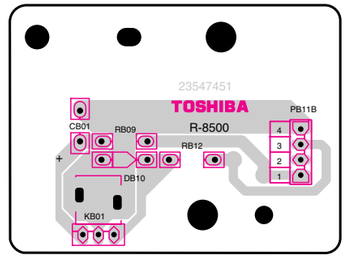
FRONT IN BOARD PD1440-2

TOP (FOIL) SIDE



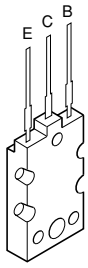
FRONT IN BOARD PD1440-2

BOTTOM (FOIL) SIDE

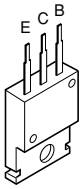


TERMINAL VIEW OF TRANSISTORS

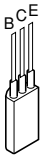
① 2SD2253
(old)
2SC5243



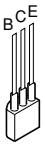
② 2SC3852
2SD1763A
2SC1569
2SC4544
2SA1788
2SA1306
2SA1186A



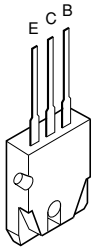
③ 2SC752GTM
2SC2482
2SC2655
2SC4721P



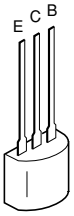
④ 2SC752
2SA562TM
2SA1015
2SC1815
2SC2878
2SC1740S
2SC2120
2SA9335



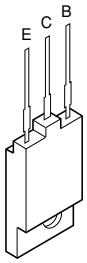
⑤ 2SA1788



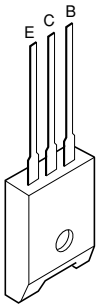
⑥ RN2203
RN2201
RN2004
RN1203
RN1204
RN2204
RN1205
RN1202
RN1201



⑦ 2SD1554
2SD2253
2SD1556
2SC5143
2SD2553



⑧ ON4409



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SPECIFICATIONS

Broadcast systems/channels

PAL-I	UHF UK21-UK69
PAL-B/G	UHF E21-E69 VHF E2-E12, S1-S41
SECAM-L	UHF F21-F69 VHF F1-F10, B-Q
SECAM-D/K	UHF R21-R69 VHF R1-R12

Video Input PAL, SECAM, NTSC 3.58/4.43

External connections

EXT1	Input	21-pin Scart	RGB, A/V
EXT2	Input	21-pin Scart	RGB, A/V
EXT3	Input/Output	21-pin Scart	A/V, S-video Selectable output
EXT4	Input	Phono jacks Phono jacks	Y, P_B/C_B, P_R/C_R Audio L+R
EXT5	Input (side/front)	4-pin Phono jack Phono jacks	S-video Video Audio L + R
Fixed/Variable Output		Phono jacks	Audio L + R
Output to Active Super Woofer		Phono socket	

Programme Positions 100

Stereo Nicam
2 carrier system

Screen Size Type 50

Display 16:9

Sound output (at 10% distortion) Main 10W + 10W

Power consumption as specified in EN60107-1 : 1997 185W

Dimensions (approx.) 134cm (H) 110cm (W) 58cm (D)

Weight (approx.) 65kg

Accessories Remote control
2 batteries
(UM-4, AAA, IEC R03 1.5V)

* Please refer to owner's manual in detail.

– END –

TOSHIBA CORPORATION

SCHEMATIC DIAGRAM

MODEL : 50PH36P

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON THE MANUAL FOR THIS MODEL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on the MANUAL for this model. Do not degrade the safety of the receiver through improper servicing.

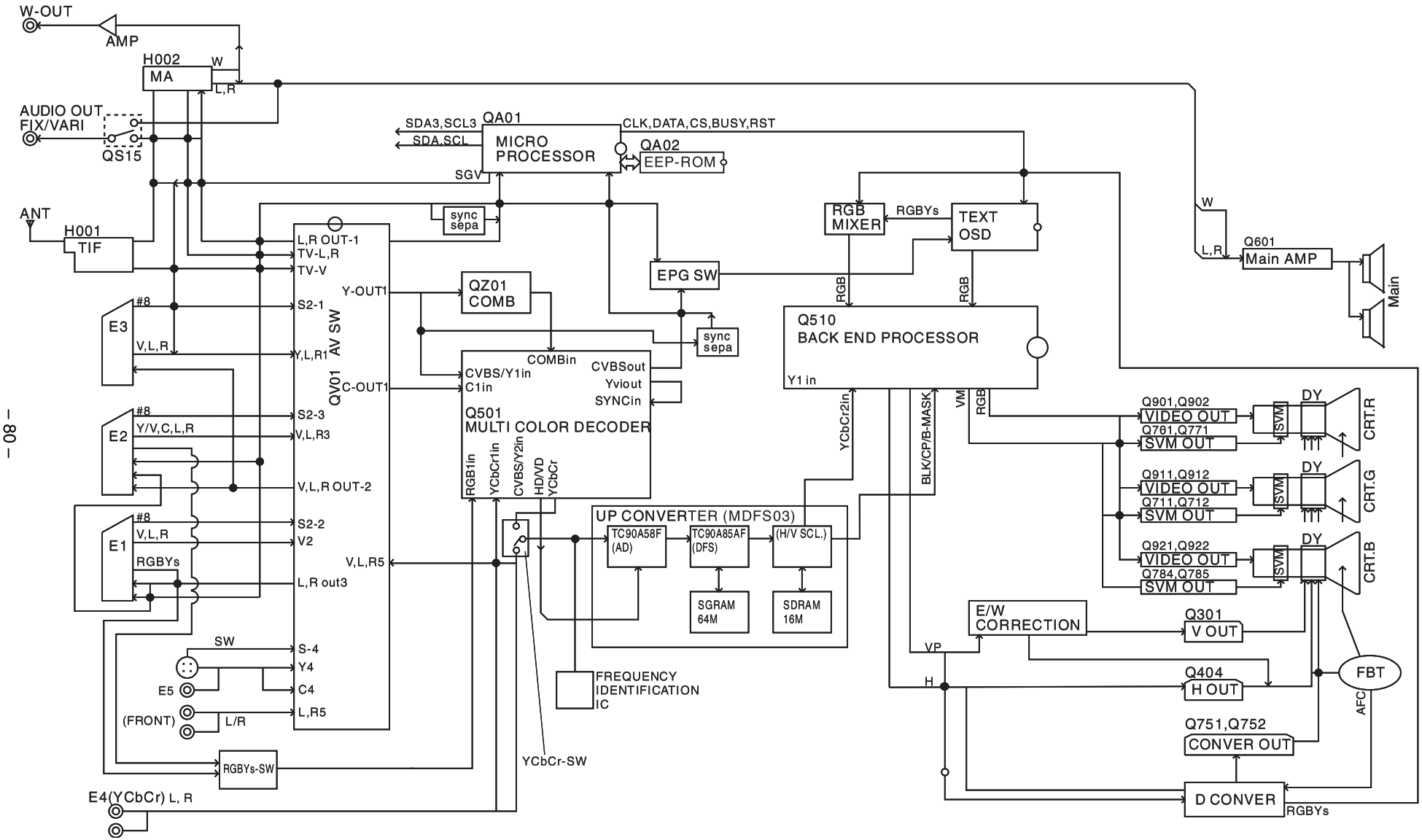
NOTE:

1. RESISTOR Resistance is shown in ohm [K = 1.000, M = 1.000.000]. All resistors are 1/6W and 5% tolerance carbon resistor, unless otherwise noted as the following marks.
   1/2R = Metal or Metal oxide of 1/2 watt 1/2S = Carbon compsistion of 1/2 watt
   1RF = Fuse resistor of 1 watt 10W = Cement of 10 watt
   K = ±10% G = ±2% F = ±1%
2. CAPACITOR Unless otherwise noted in schematic, all capacitor values less than 1 are expressed in μF, and the values more than 1 in pF.
   All capacitors are ceramic 50V, unless otherwise noted as the following marks.
   —|+|— Electolytic capacitor —|M|— Mylar capacitor
3. The parts indicated with "⚠" have special characteristics, and should be replaced with identical parts only.
4. Voltages read with DIGITAL MULTI-METER from point indicated to chassing ground, using a color bar signal with all controls at normal, line voltage 220 volts.
5. Waveforms are taken receiving color bar signal with enough sensitivity.
6. Voltage reading shown are nominal values and may vary ±20% except H.V.

■ SCHEMATIC DIAGRAM STRUCTURE:

- SIGNAL Circuit
  - CONNECTION [SHEET - 1/8] 1/18
  - MICON [SHEET - 2/8] 2/18
  - MULTI-COLOR DECORDER [SHEET - 3/8] 3/18
  - SCAN CONVERTER [SHEET - 4/8] 4/18
  - BEP [SHEET - 5/8] 5/18
  - AV [SHEET - 6/8] 6/18
  - Audio [SHEET - 7/8] 7/18
  - IF [SHEET - 8/8] 8/18
- POWER Circuit 9/18
- DEF / CONVER-OUT Circuit
  - (1/3) [SHEET - 1/3] 10/18
  - (2/3) [SHEET - 2/3] 11/18
  - (3/3) [SHEET - 3/3] 12/18
- EPG POWER Circuit 13/18
- EPG-M2 2nd. Generation Circuit
  - (1/2) [SHEET - 1/2] 14/18
  - (2/2) [SHEET - 2/2] 15/18
- CRT-D SVM Circuit
  - (1/2) [SHEET - 1/2] 16/18
  - (2/2) [SHEET - 2/2] 17/18
- FRONT-IN RMT-IN Circuit 18/18

CIRCUIT BLOCK DIAGRAM



SIGNAL PANEL

U912
N691
N692
N693
N694
N695

D891 1N4884A-FL ERB12-8T
D891 NJM2396F05 — 5V3 — C894 50V22 — C893 50V10 — Q891A 2SA1576A 2SA1576 2347587 — Q891C — Q891B
5V DFS 4-B1

D892 1N4884A-FL ERB12-8T
D892 NJM2396F05 — 5V2 — C896 50V22 — C895 50V10 — Q892A 2SA1576A 2SA1576 2347587 — Q892C — Q892B
5V2 2-A1 2-B1 2-C1 2-D1 8-C2 8-D2

D890 1N4884A-FL ERB12-8T
Q890 NJM2396F09 — 9V1 — C892 50V22 — Q890A 2SB764A 2SB764 2367470A — C890 50V10 — Q890C — D898 1N4884A-FL ERB12-8T — Q890B
9V1 1-E4 2-E8 2-C1 4-B1 5-D1 6-A7 7-C2 8-C7 8-D2

EPG POWER
B883A 8P 2.5P1J-P
GND 4
TUNER 32V 5 — 32V_EPG — 8-D2
EPG POWER 6 — EPGPOWER — 2-E8
EPG 5V 7 — 5V_EPG — 2-B1 8-C6 8-D2
EPG GND 8

CRT-DRIVE
P902A 8P
9V 1 — CRT9V — 5-E7
B 2 — B — 5-E7
G 3 — G — 5-E7
R 4 — R — 5-E7
GND 5 — GND_LC1 — 1-D1 5-D7 5-D7
GND 6 — GND_LC1 — 1-D1 5-D7 5-D7
GND 7 — GND_VM — 5-D7
VM 8 — VM — 5-D7

SET REAR
BB23A BB 16P SOCKET
H_COMP 1 — 5-C1
BLK 2 — 2-E1
VP (DS1) 3 — 4-C7
V STOP 4 — 5-C1
NC 5 — 5-A1
GND 6
GND 7 — 2-C8 3-C8
SDA2 8 — 4-A1 5-F1
SCL2 9 — 2-C8 3-C8 4-A1 5-F1
GND 10
CONV-R 11 — 2-A8
CONV-G 12 — 2-A8
CONV-B 13 — 2-A8
CONV-YS 14 — 2-B8
CONV-RST 15 — 2-D1
I2C-STOP 16 — 2-C8

BB22A BB 16P SOCKET
+16V-2 1 — G6V2 — 5-A1
GND 2
GND 3
31.5KHZ_DET 4
GND 5
GND 6
+9V-1 7 — 9V1 — 1-C5 2-E8 3-C1 4-B1 6-D1 6-A7 7-C2 8-C7 8-D2
ABL_SW 8 — ABLSW_IN — 2-C1
ABL 9 — 5-E1
AFC 10 — 2-C1
H-DRIVE 11 — CRTVB — 5-C1
H_GND 12
POWER 13 — POWER — 2-D8
RESET 14
STANDBY GND 15
+5V-1 16 — 5V1 — 2-B1

NC 1
NC 2
GND 3 — DE_CONV — 2-B8
GND 4
CONV WP 5 — CONV_WP — 2-E8
NC 6
PUMP UP PULSE 7
8P 2.5P1J-P BB24A

BB21A BB 16P SOCKET
GND_TUN 1
TUNER +32V 2 — +32V — 8-D2
TUNER +32V 3
NC 4
GND_11V 5
GND_11V 6
+11V 7 — +11V — 5-A1 7-D2
+11V 8
GND_7V 9
GND_7V 10
+7V 11
+7V 12
AUDIO GND 13 — GND_A — 1-C7 1-C7 6-A1 6-D8 7-B2 7-B7 7-B7 7-C7
AUDIO GND 14
AUDIO VCC 15 — AUDIO_VCC — 7-C7
AUDIO VCC 16

SET FRONT

RMT
P611A 4P
GND 4
2-C8 RMT_IN — RMT IN 3
+5V-1 2

LED
PB12A 3P 2.5mm_1.5A_Beige
GND 3
2-C8 LED — LED 2
5V-1 1

OUTER GND 5
SHIFT 4
2-B1 KEY2 — KEY-2 3
2-B1 KEY1 — KEY-1 2
GND 1

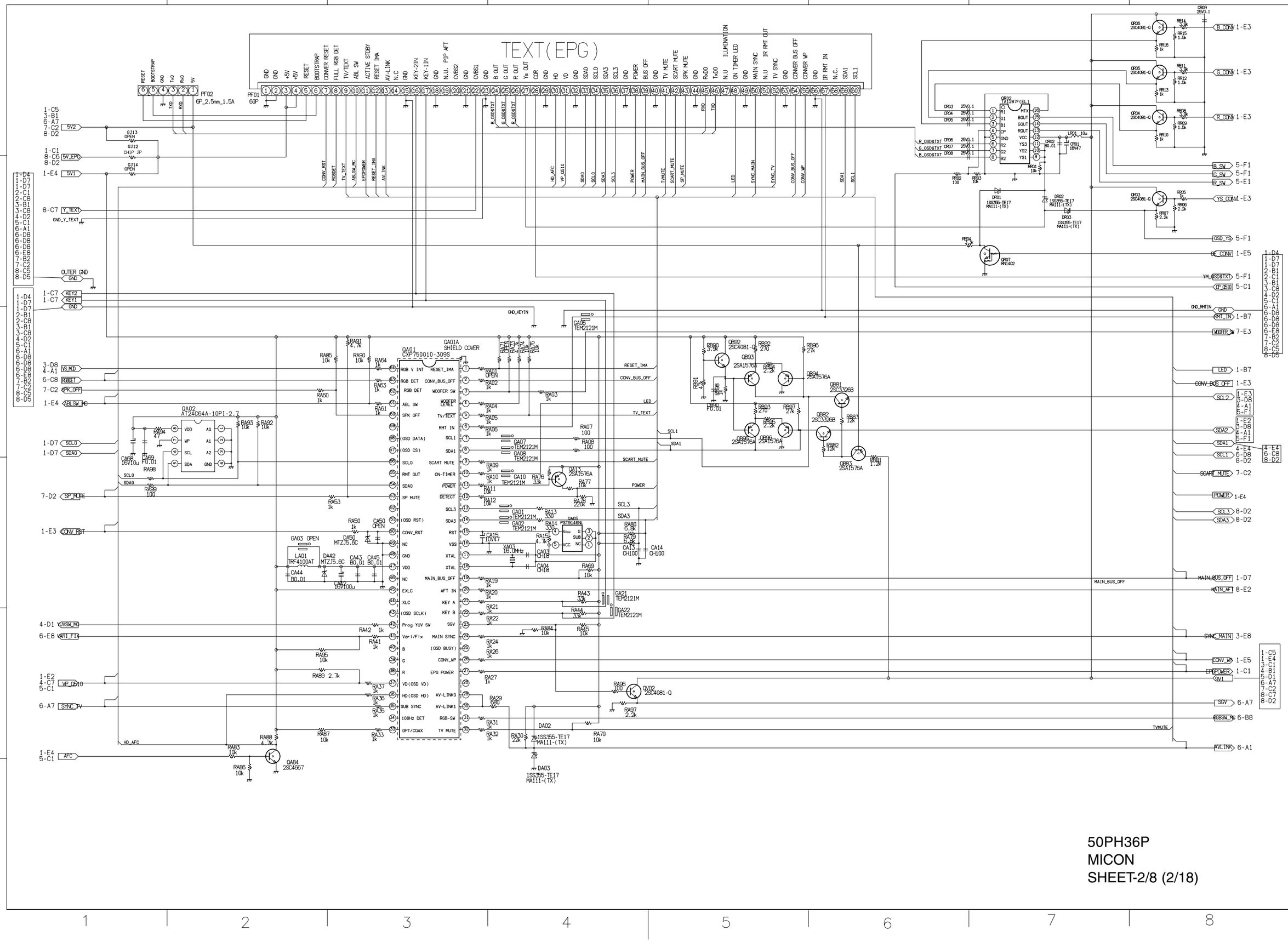
PB13A 5P
1-C7 1-E6 6-A1 6-D8 7-B2 7-B7 7-B7 7-C7
7-B7 L_SPK — L 6
GND_A — GND 5
7-B7 R_SPK — R 4
GND_A — GND 3
2
7-B7 HP_MUTE — HP MUTE 1
P605A 6P

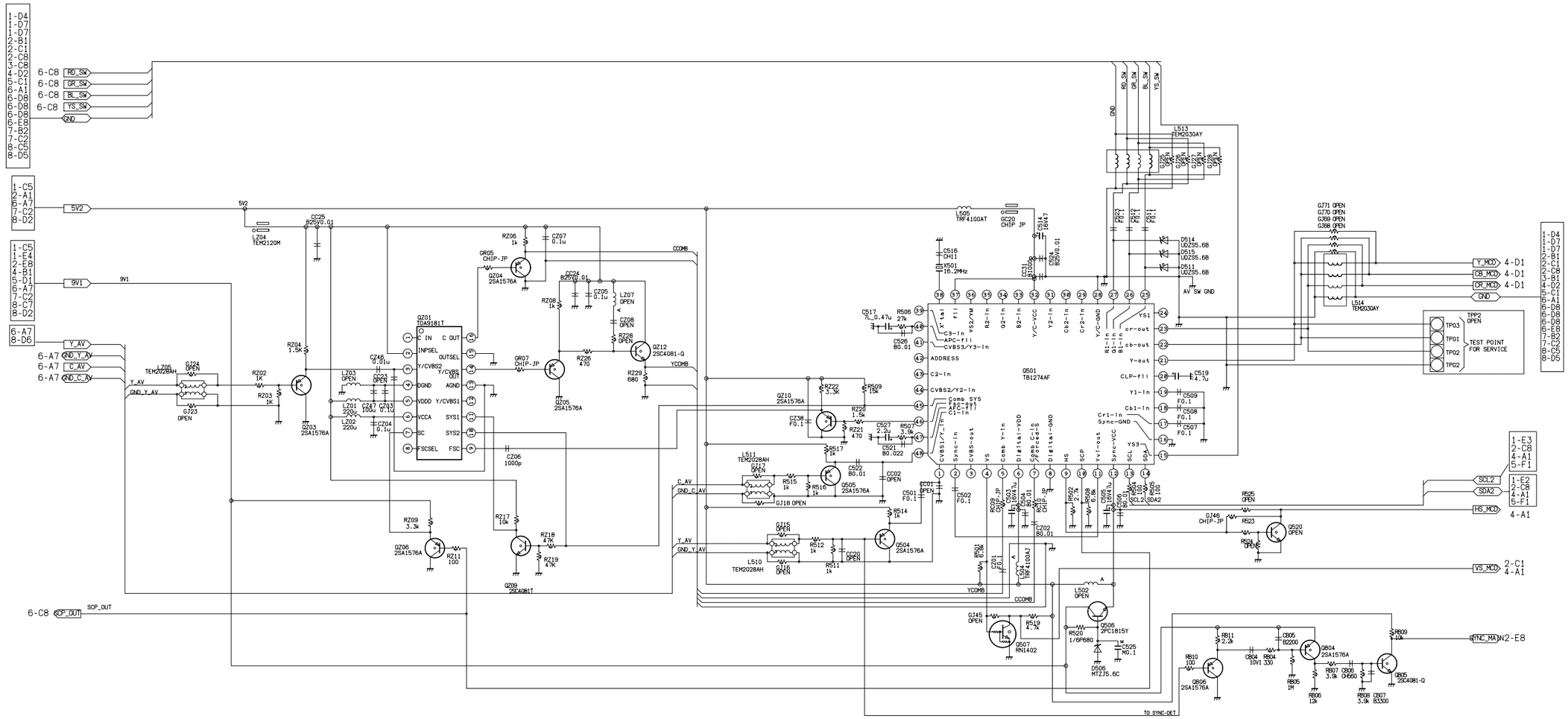
FRONT-IN
6-D8 C_E5 — C_E5 1
GND_C_E5 GND — GND(C-E5) 2
6-D8 Y_E5 — Y E5 3
GND_Y_E5 GND — GND(Y-E5) 4
6-D8 L_E5 — E5 L 5
6-D8 R_E5 — E5 R 6
GND_audio_E5 — GND 7
PJ115B

2-C1 SCL0 — SCL0 5
GND 4
+5V-1 3
2-D8 MAIN_BUS_OFF — MAIN BUS OFF 2
2-C1 SDA0 — SDA0 1
PB14 PLUG 5P

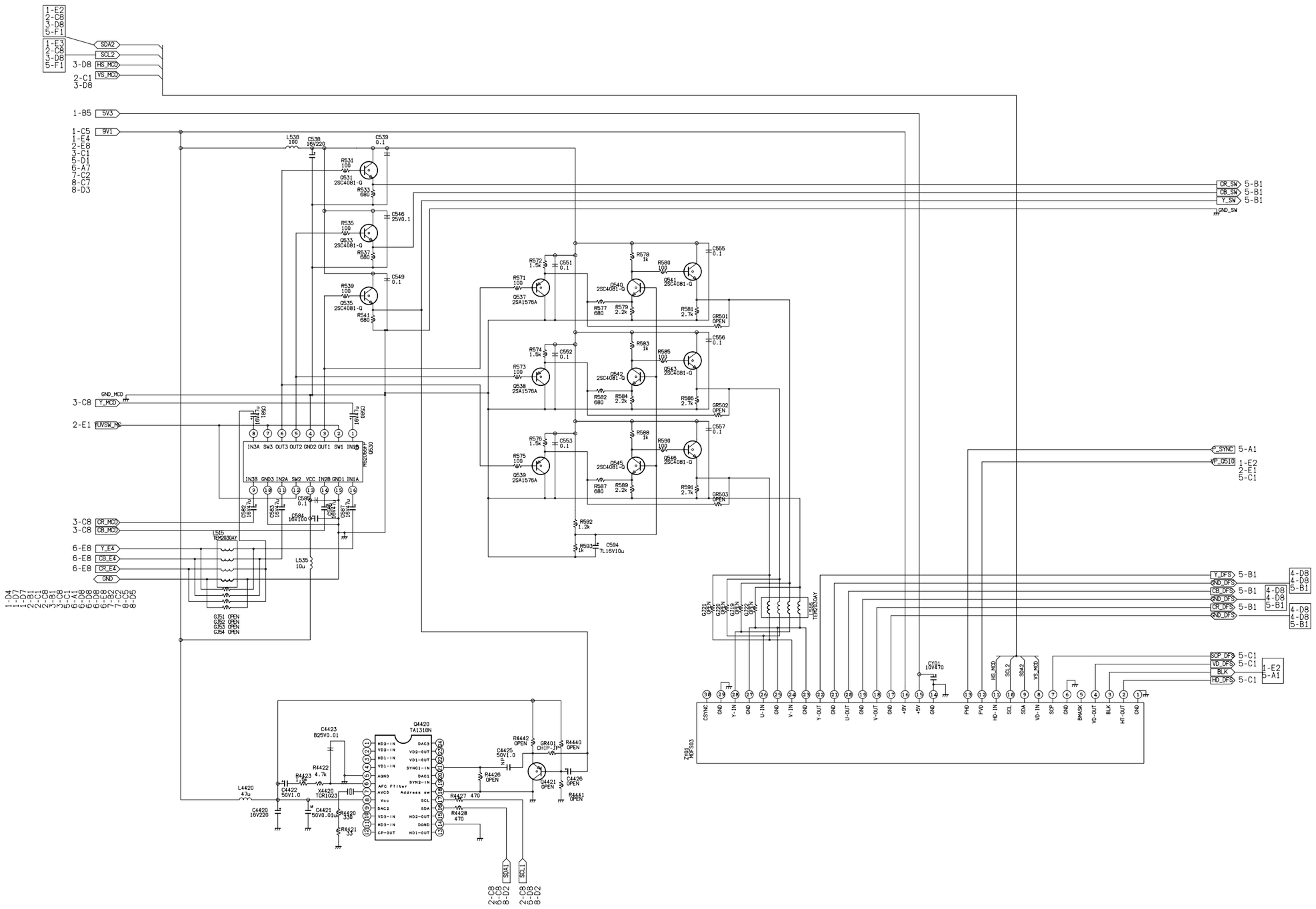
DEF PANEL

50PH36P
SIGNAL CONNECTION
SHEET-1/8 (1/18)


TEXT(EPG)
PF01 60P
PF02 6P_2.5mm_1.5A
QA01 CXP750010-309S
QA01A SHIELD COVER
QA02 AT24C64A-10PI-2.7
QA84 2SC4667
QA85 2SC4081-Q
QA86 2SC4081-Q
QA87 2SC4081-Q
QA88 2SC4081-Q
QA89 2SC4081-Q
QA90 2SC4081-Q
QA91 2SC4081-Q
QA92 2SC4081-Q
QA93 2SC4081-Q
QA94 2SC4081-Q
QA95 2SC4081-Q
QA96 2SC4081-Q
QA97 2SC4081-Q
QA98 2SC4081-Q
QA99 2SC4081-Q
QB81 2SC3326B
QB82 2SC3326B
QB83 2SA1576A
QB84 2SA1576A
QB85 2SA1576A
QB86 2SA1576A
QB87 2SA1576A
QB88 2SA1576A
QB89 2SA1576A
QB90 2SA1576A
QB91 2SA1576A
QB92 2SA1576A
QB93 2SA1576A
QA05 FST9148N
QA13 2SA1576A
QR02 AT287F(EL)
DA01 1SS355-TE17 MA111-(TX)
DA02 1SS355-TE17 MA111-(TX)
DA03 1SS355-TE17 MA111-(TX)
DR01 1SS355-TE17 MA111-(TX)
DR02 1SS355-TE17 MA111-(TX)
DR03 1SS355-TE17 MA111-(TX)
DR07 RN1402
LA01 TRF4100AT
XA03 16.00MHz
GA01 TEM2121M
GA02 TEM2121M
GA03 OPEN
GA05 TEM2121M
GA06 TEM2121M
GA07 TEM2121M
GA08 TEM2121M
GA10 TEM2121M
GA21 TEM2121M
GA22 TEM2121M
GJ11 OPEN
GJ12 CHIP JP
GJ13 OPEN
GJ14 OPEN
TEXT(EPG)
RESET
BOOTSTRAP
GND
TxD
RxD
5V
CONV_RST
RSBSET
TV_TEXT
ABLSW_MC
EPGPOWER
RESET_IMA
AVLINK
VD_AFC
VP_OSD
SDA0
SCL0
SDA3
SCL3
POWER
MAIN_BUS_OFF
TVMUTE
SCART_MUTE
SP_MUTE
LED
SYNC_MAIN
SYNC_TV
CONV_BUS_OFF
CONV_MP
SDA1
SCL1
RESET_IMA
CONV_BUS_OFF
LED
TV_TEXT
SCL1
SDA1
SCART_MUTE
POWER
SCL3
SDA3
MAIN_BUS_OFF
SYNC_MAIN
TVMUTE
AVLINK
B_CONV
G_CONV
R_CONV
B_SW
G_SW
R_SW
YS_CONV
OSD_YS
BC_CONV
YM_OSD&TXT
VP_OSD
GND_RMT IN
RMT_IN
WOOFER
SCL2
SDA2
MAIN_AFT
CONV_MP
EPGPOWER
SGV
ROBSW_MS
GND_KEYIN
OUTER GND
5V2
5V_EPG
5V1
Y_TEXT
GND_Y_TEXT
KEY2
KEY1
VS_MIX
ROBSET
SPK_OFF
ABLSW_MC
SCL0
SDA0
SP_MUTE
CONV_RST
YUVSW_MIX
VARI_FIX
VP_OSD
SYNC_TV
HD_AFC
AFC
50PH36P
MICON
SHEET-2/8 (2/18)

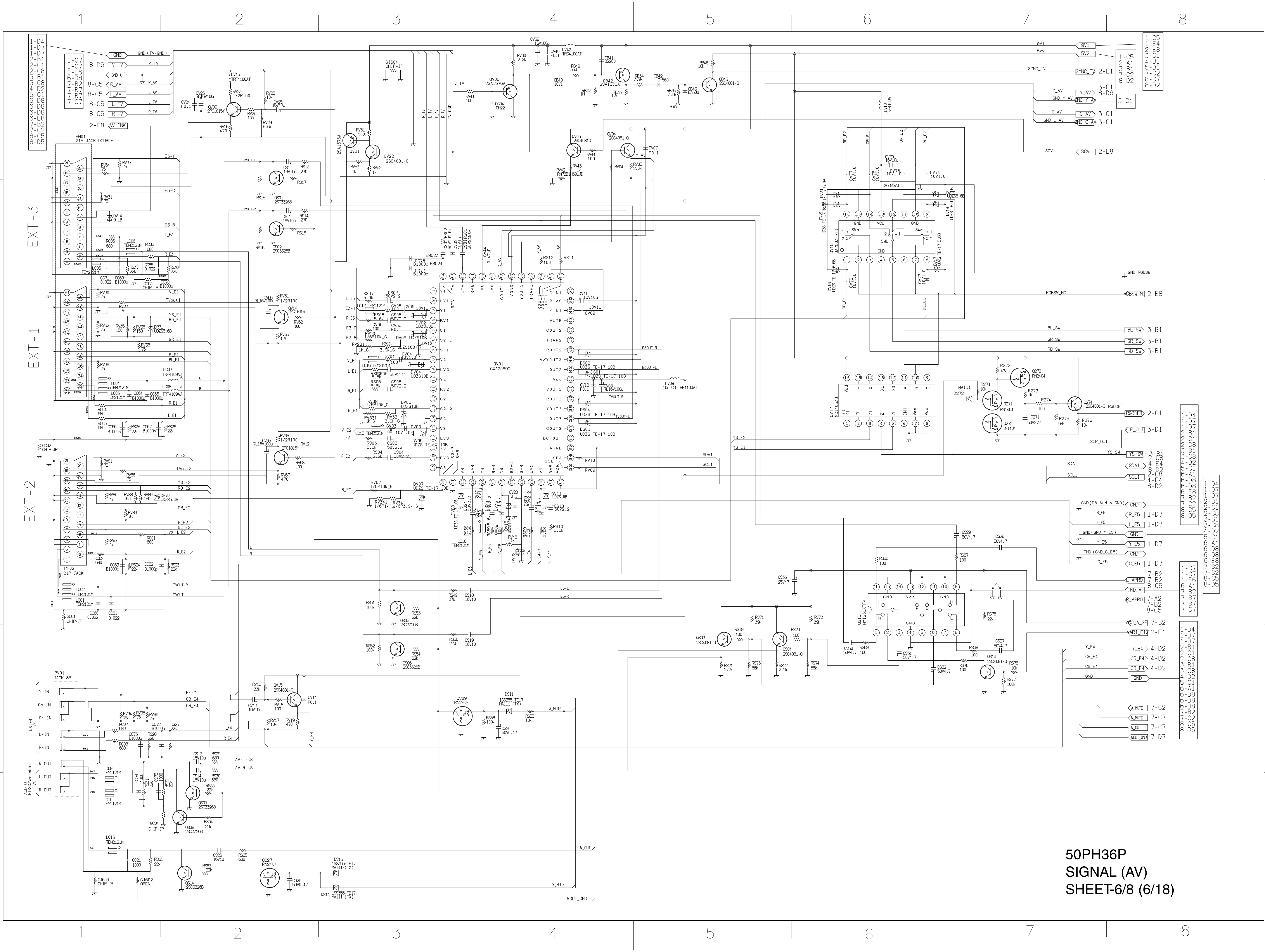


50PH36P
MULTI-COLOR DECORDER
SHEET-3/8 (3/18)

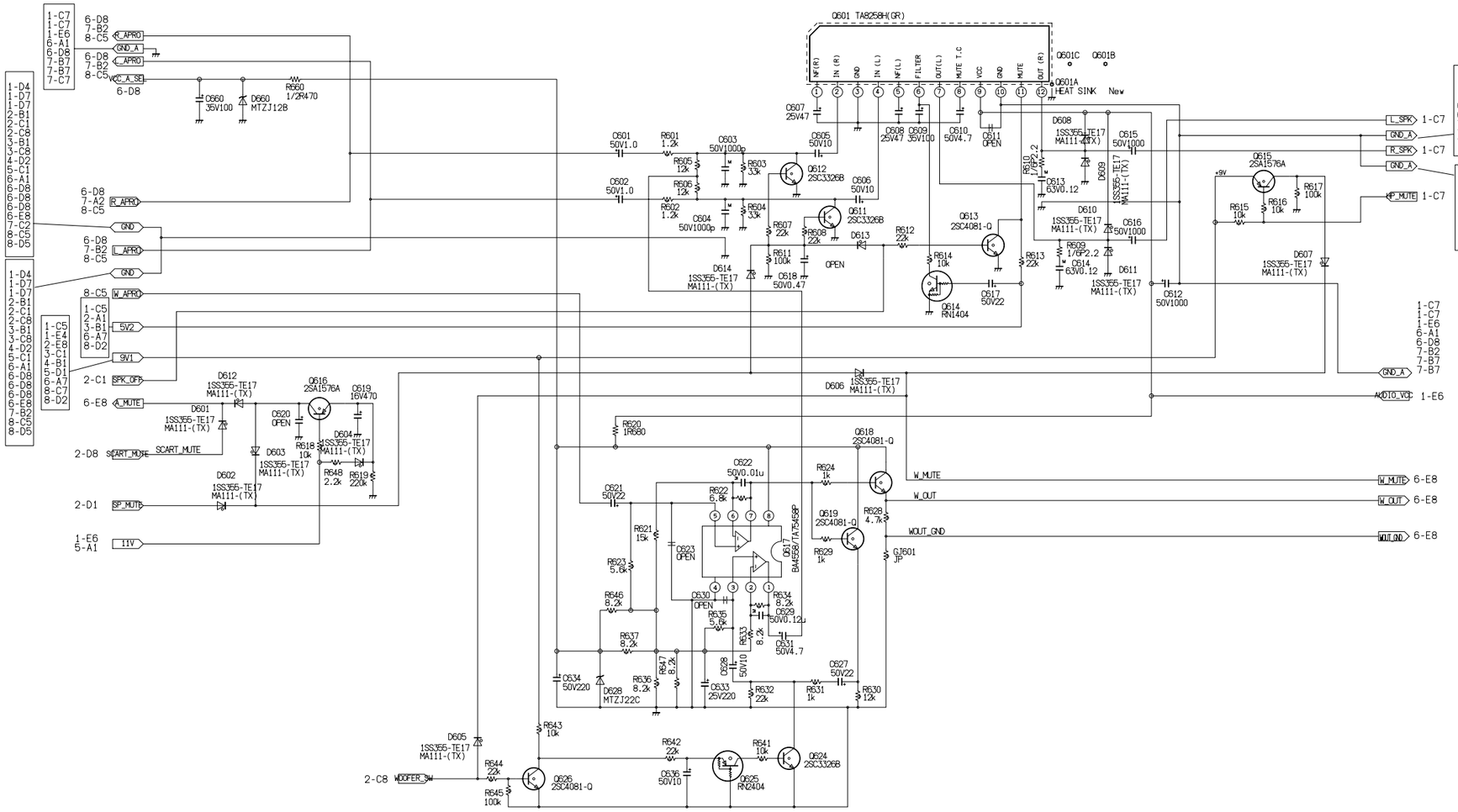


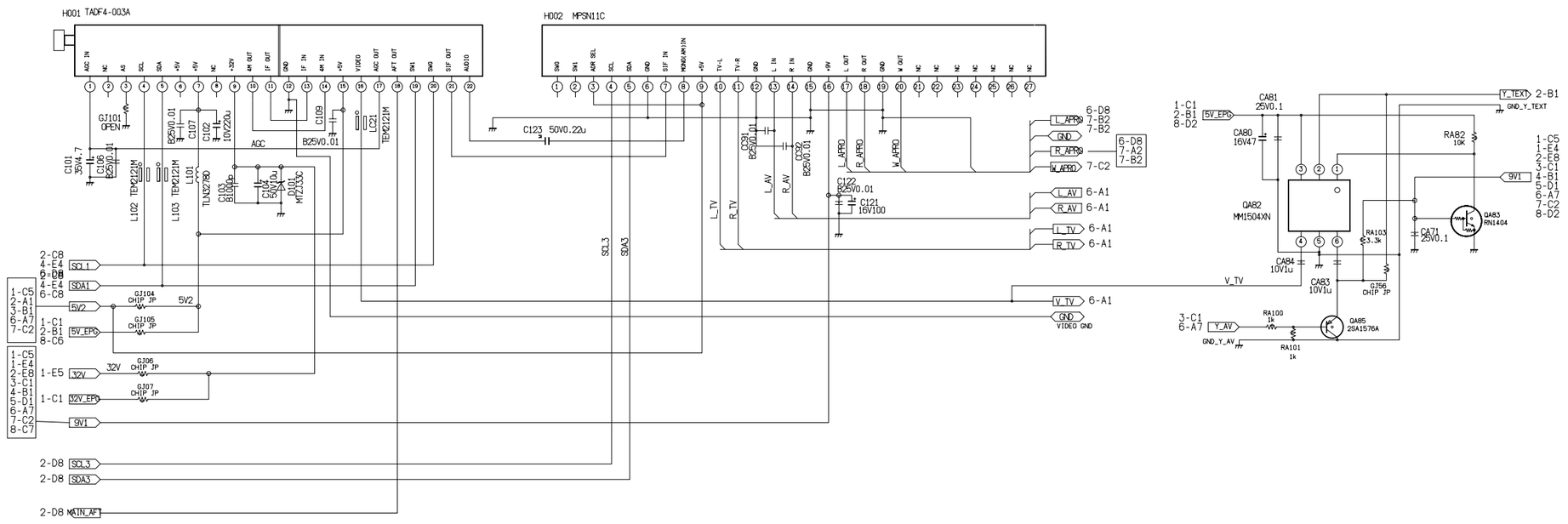
50PH36P
SCAN CONVERTER
SHEET-4/8 (4/18)

50PH36P
SIGNAL (BACK END PROCESSOR)
SHEET-5/8 (5/18)


EXT-3
EXT-1
EXT-2
EXT-4
PH01 21P JACK DOUBLE
PH02 21P JACK
PV01 JACK 8P
QV01 CXA2069Q
QV16 BA7603F-T1
QV17 MC14053B
QS15 MM1231XFFK
Y-IN
Cb-IN
Cr-IN
L-IN
R-IN
W-OUT
L-OUT
R-OUT
AUDIO FIXED/Variable
GND (TV-GND)
V_TV
GND_A
R_AV
L_AV
L_TV
R_TV
AVLINK
9V1
5V2
SYNC_TV
Y_AV
GND_Y_AV
C_AV
GND_C_AV
SGV
GND_RGBSW
RGBSW_MC
BL_SW
GR_SW
RD_SW
RGBDET
SCP_OUT
YS_SW
SDA1
SCL1
GND (E5-Audio-GND)
R_E5
L_E5
GND (GND_Y_E5)
Y_E5
GND (GND_C_E5)
C_E5
L_APRO
GND_A
R_APRO
VCC_A_SEL
VARI_FIX
Y_E4
CR_E4
CB_E4
A_MUTE
W_MUTE
W_OUT
WOUT_GND

50PH36P
SIGNAL (AV)
SHEET-6/8 (6/18)


IC601 TA8258H(QR)
NF(R)
IN (R)
GND
IN (L)
NF(L)
FILTER
OUT(L)
MUTE T.C
VCC
GND
MUTE
OUT (R)
Q601C
Q601B
Q601A
HEAT SINK New
L_APRO
GND_A
R_APRO
GND
L_APRO
GND
W_APRO
5V2
9V1
SPK_OFF
M_MUTE
SCART_MUTE
SP_MUTE
11V
L_SPK
GND_A
R_SPK
GND_A
SP_MUTE
GND_A
AUDIO_VCC
W_MUTE
W_OUT
WOUT_GND
WOUT_GND
WOOFER_SW
W_MUTE
W_OUT
WOUT_GND
GJ601
JP
50PH36P
SIGNAL (Audio)
SHEET-7/8 (7/18)



42WH36P
51WH36P
57WH36P
50PH36P
SIGNAL (IF)
SHEET-8/8 (8/18)

LIVE AREA

ASIA MODEL

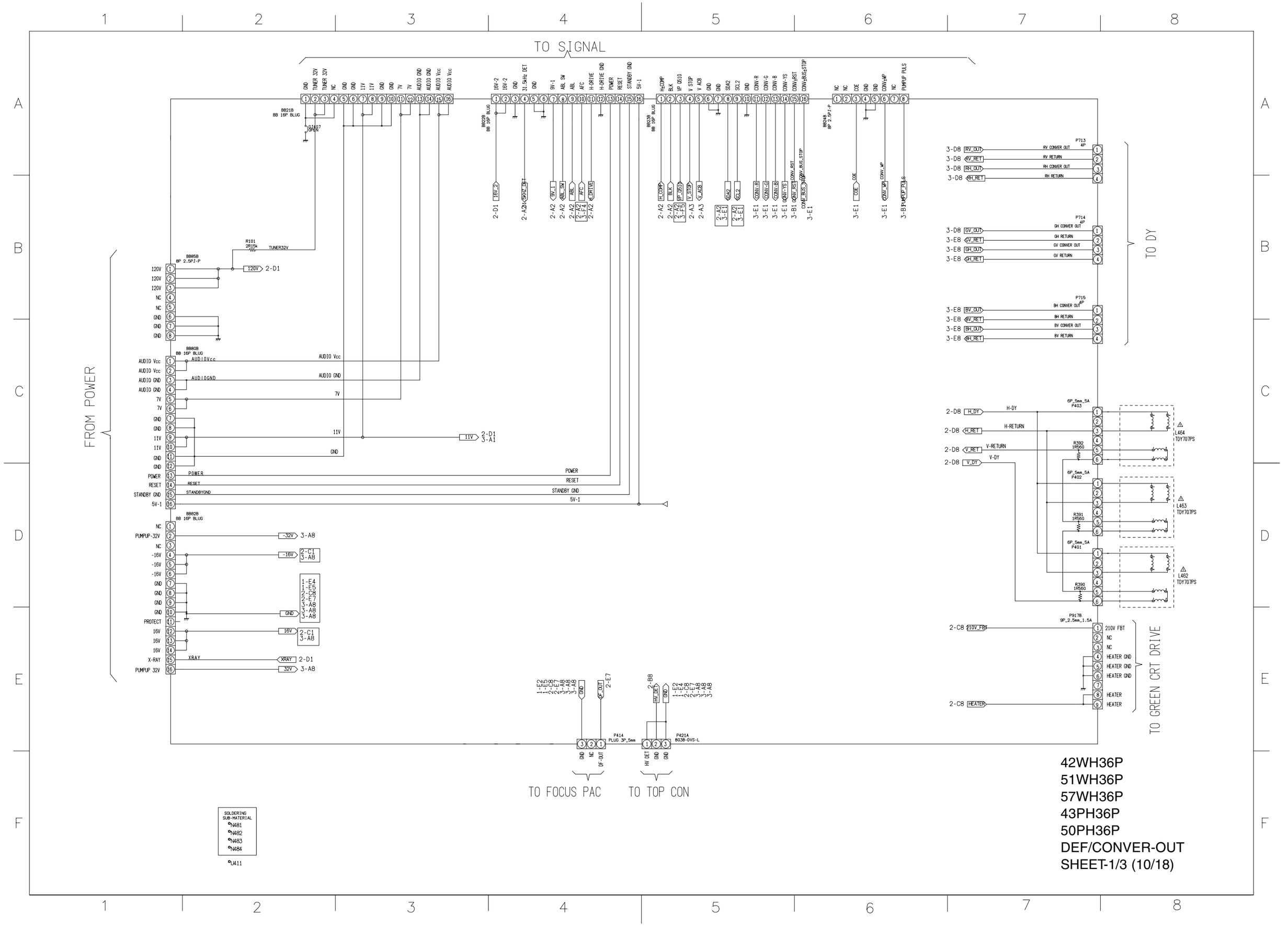
LIVE AREA

LIVE AREA

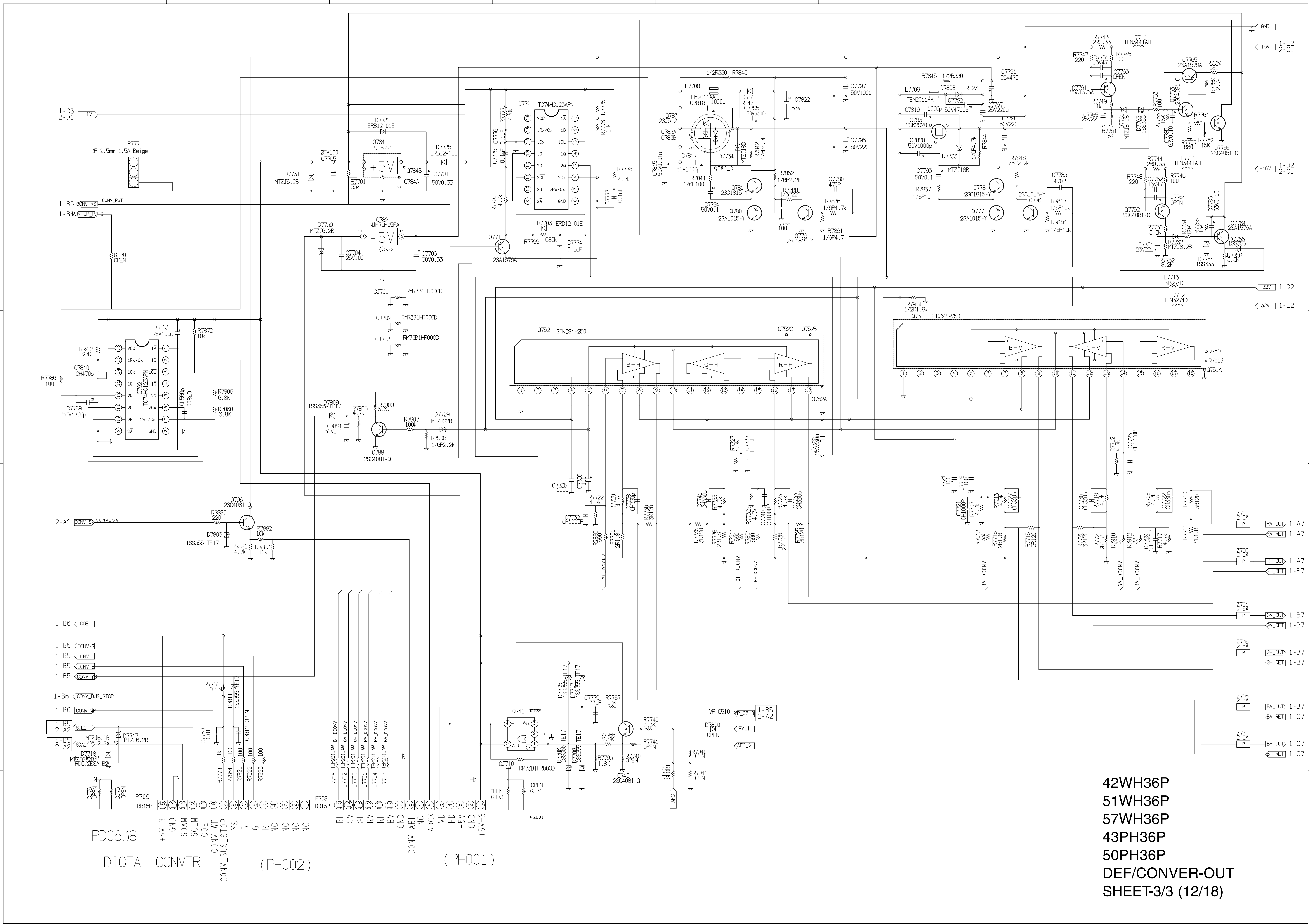
LIVE AREA

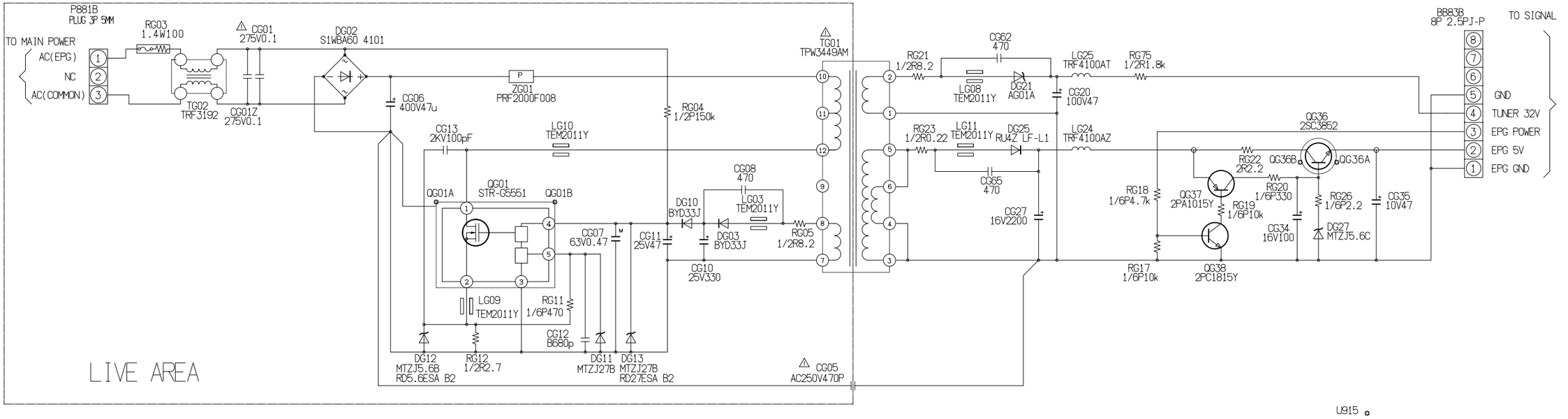
43S6C 43S7DM
43SK6C 43S7DR
43S6DA 43S7DT
43S6DE 43S7SN
43S6SN 43VJ33P
43S7DE 50VJ33P
TPO/ASIA CRT-D_SVM (8/8)

42WH36P
51WH36P
57WH36P
43PH36P
50PH36P
POWER (9/18)


TO SIGNAL
FROM POWER
TO DY
TO GREEN CRT DRIVE
TO FOCUS PAC
TO TOP CON
BB21B BB 16P BLUG
BB09B BB 16P BLUG
BB23B BB 16P BLUG
BB24B BP 2.5PJ-P
BB85B BP 2.5PJ-P
BB80B BB 16P BLUG
BB82B BB 16P BLUG
R1107 OPEN
R101 2R15k TUNER32V
GND TUNER 32V TUNER 32V NC GND GND 11V 11V GND GND 7V 7V AUDIO GND AUDIO GND AUDIO Vcc AUDIO Vcc
16V-2 16V-2 GND 31.5kHz DET GND 5V-1 ABL SW ABL AFC H-DRIVE H-DRIVE GND POWER RESET STANDBY GND 5V-1
H_COMP BLK VP GS10 V STOP V AGB GND GND SDA2 SCL2 GND CONV-R CONV-G CONV-B CONV-YS CONV_RST CONV_BUS_STOP
NC NC CDE GND GND CONV_HP NC PUMPUP PULS
120V 120V 120V NC NC GND GND GND
AUDIO Vcc AUDIO Vcc AUDIO GND AUDIO GND 7V 7V GND GND 11V 11V GND GND POWER RESET STANDBY GND 5V-1
NC PUMPUP-32V NC -16V -16V -16V GND GND GND GND PROTECT 16V 16V 16V X-RAY PUMPUP 32V
P713 4P
RV CONVER OUT
RV RETURN
RH CONVER OUT
RH RETURN
P714 4P
GH CONVER OUT
GH RETURN
GV CONVER OUT
GV RETURN
P715 4P
BH CONVER OUT
BH RETURN
BV CONVER OUT
BV RETURN
6P_5mm_5A P403
6P_5mm_5A P402
6P_5mm_5A P401
H-DY
H-RETURN
V-RETURN
V-DY
R392 1R560
R391 1R560
R390 1R560
L464 TDY707PS
L463 TDY707PS
L462 TDY707PS
P917B 9P_2.5mm_1.5A
210V FBT
NC
NC
HEATER GND
HEATER GND
HEATER GND
HEATER
HEATER
P414 PLUG 3P_5mm
GND NC DF-OUT
P421A B03B-DVS-L
HV DET GND GND
SOLDERING SUB-MATERIAL
N481
N482
N483
N484
U411
42WH36P
51WH36P
57WH36P
43PH36P
50PH36P
DEF/CONVER-OUT
SHEET-1/3 (10/18)

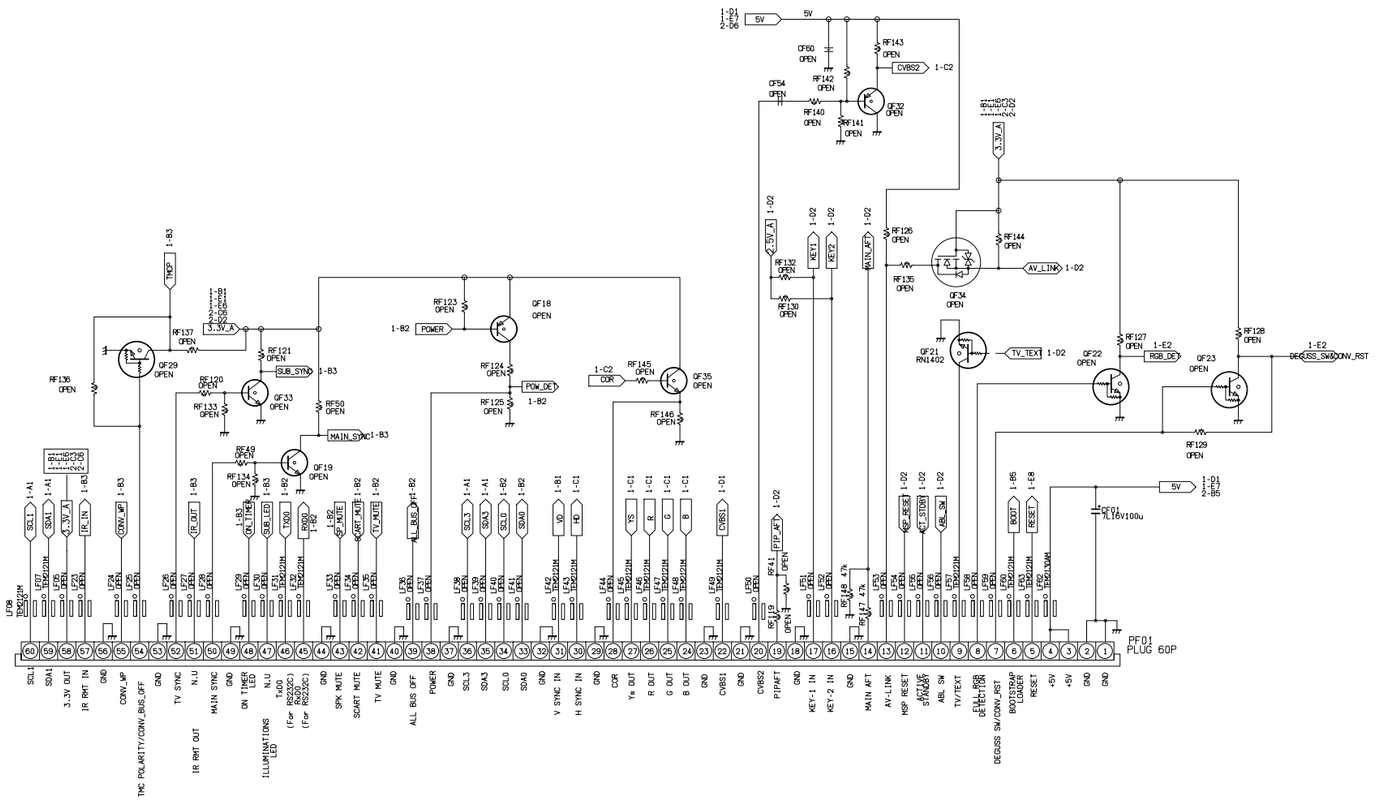
42WH36P
51WH36P
57WH36P
43PH36P
50PH36P
DEF/CONVER-OUT
SHEET-2/3 (11/18)


42WH36P
51WH36P
57WH36P
43PH36P
50PH36P
DEF/CONVER-OUT
SHEET-3/3 (12/18)
PD0638
DIGTAL-CONVER
(PH002)
(PH001)
P709 BB15P
+5V-3 GND SDAM SCLM COE CONV_WP CONV_BUS_STOP YS B G R NC NC NC NC
P708 BB15P
BH GV GH RV RH BV GND CONV_ABL NC ADCK VD HD -5V GND +5V-3
1-C3 2-D1 11V
P777 3P_2.5mm_1.5A_Beige
1-B5 CONV_RST
1-B6 PUMPUP_PULS
2-A2 CONV_SW
1-B6 COE
1-B5 CONV-R
1-B5 CONV-G
1-B5 CONV-B
1-B5 CONV-YS
1-B6 CONV_BUS_STOP
1-B6 CONV_WP
1-B5 2-A2 SCL2
1-B5 2-A2 SDA2
Q784 PQ05RR1 +5V
Q782 NJM79M05FA -5V
Q772 TC74HC123APN
Q792 TC74HC123APN
Q771 2SA1576A
Q788 2SC4081-Q
Q796 2SC4081-Q
Q741 TC7S32F
Q740 2SC4081-Q
VP_Q510 1-B5 2-A2
9V_1
AFC_2
AFC
Q783 2SJ512
Q793 2SK2920
Q781 2SC1815-Y
Q780 2SA1015-Y
Q779 2SC1815-Y
Q778 2SC1815-Y
Q777 2SA1015-Y
Q776 2SC1815-Y
Q7761 2SA1576A
Q7765 2SA1576A
Q7763 2SC4081-Q
Q7766 2SC4081-Q
Q7762 2SC4081-Q
Q7764 2SA1576A
GND
16V 1-E2 2-C1
-16V 1-D2 2-C1
-32V 1-D2
32V 1-E2
Q752 STK394-250
B-H G-H R-H
Q751 STK394-250
B-V G-V R-V
BH_DCONV GH_DCONV RH_DCONV BV_DCONV GV_DCONV RV_DCONV
Z711 2.5A RV_OUT 1-A7
RV_RET 1-A7
Z726 2.5A RH_OUT 1-A7
RH_RET 1-B7
Z721 2.5A GV_OUT 1-B7
GV_RET 1-B7
Z736 2.5A GH_OUT 1-B7
GH_RET 1-B7
Z716 2.5A BV_OUT 1-B7
BV_RET 1-C7
Z731 2.5A BH_OUT 1-C7
BH_RET 1-C7



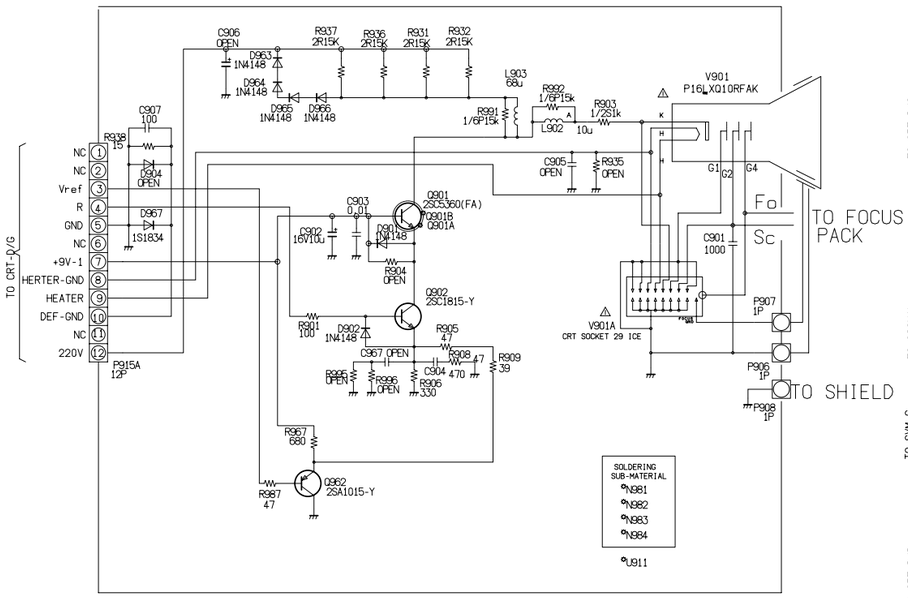
42WH36P
51WH36P
57WH36P
50PH36P
EPG POWER (13/18)

42WH36P
51WH36P
57WH36P
50PH36P
EPG-M2
2nd. Generation
SHEET-1/2 (14/18)

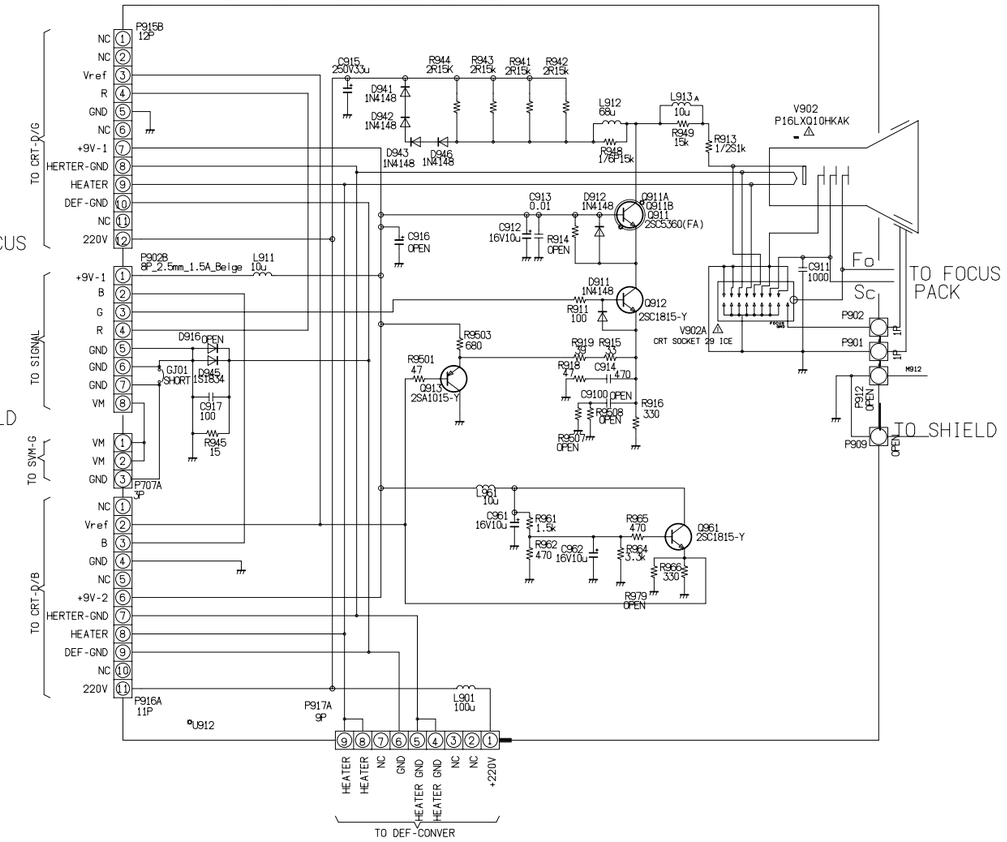


42WH36P
51WH36P
57WH36P
50PH36P
EPG-M2
2nd. Generation
SHEET-2/2 (15/18)

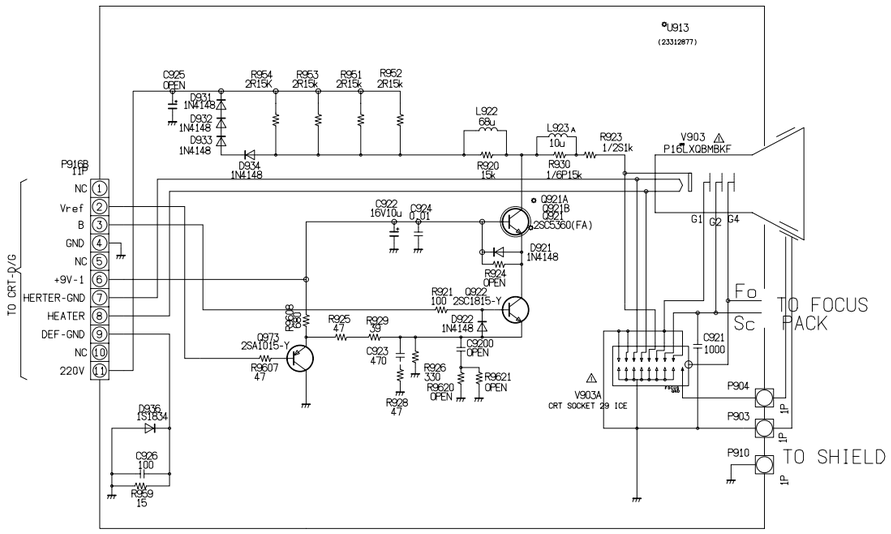
U901A
CRT-D/R PD1102A1



U901B
CRT-D/G PD1102A2

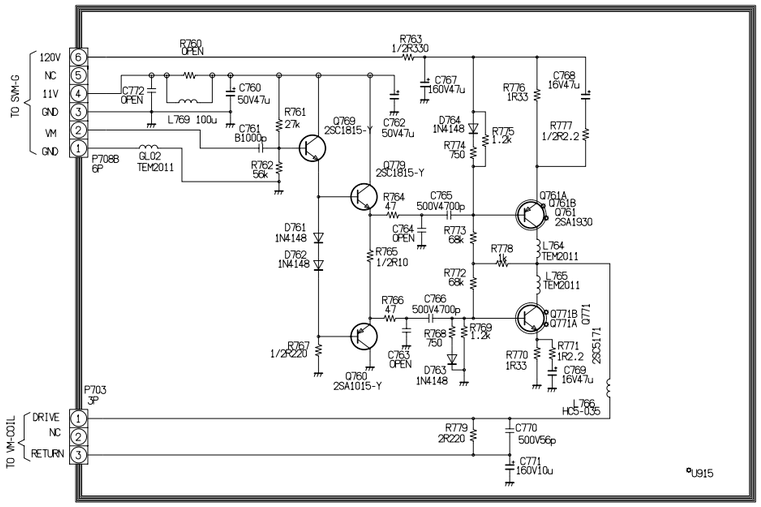


U901C
CRT-D/B PD1102A3

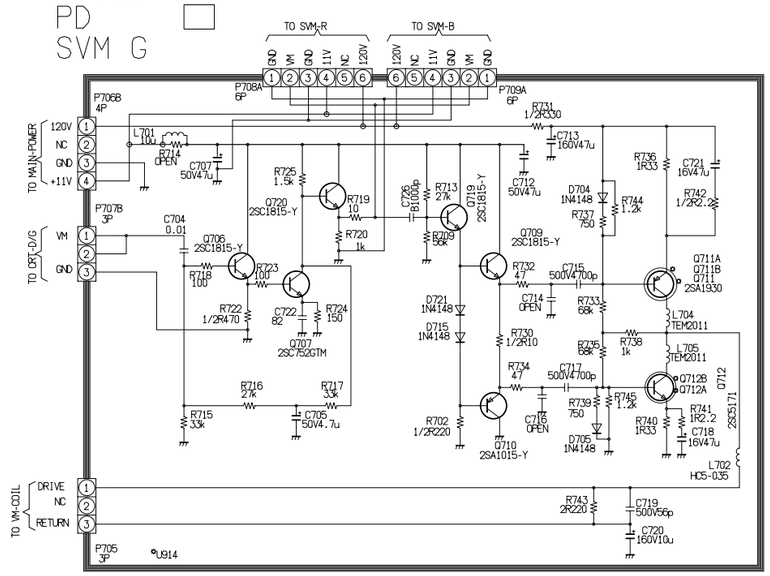


43PH36P
50PH36P
CRT-D SVM
SHEET-1/2 (16/18)

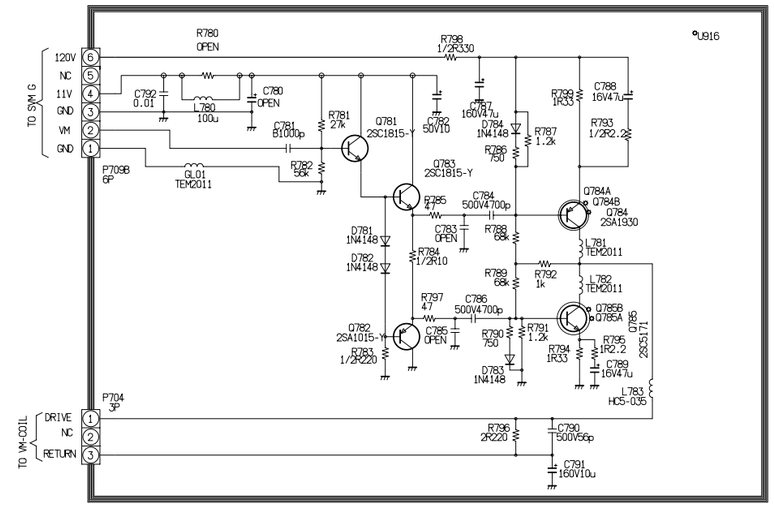
U901E
SVM R PD



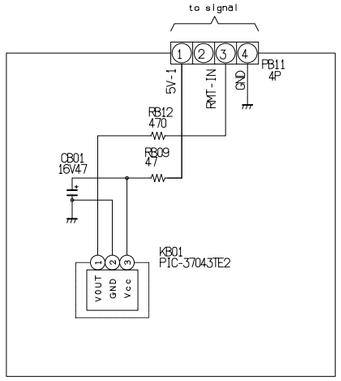
U901D
PD
SVM G

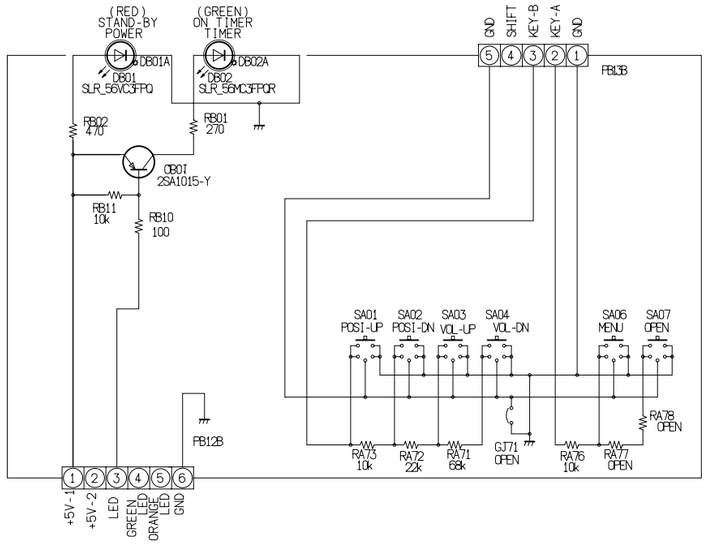


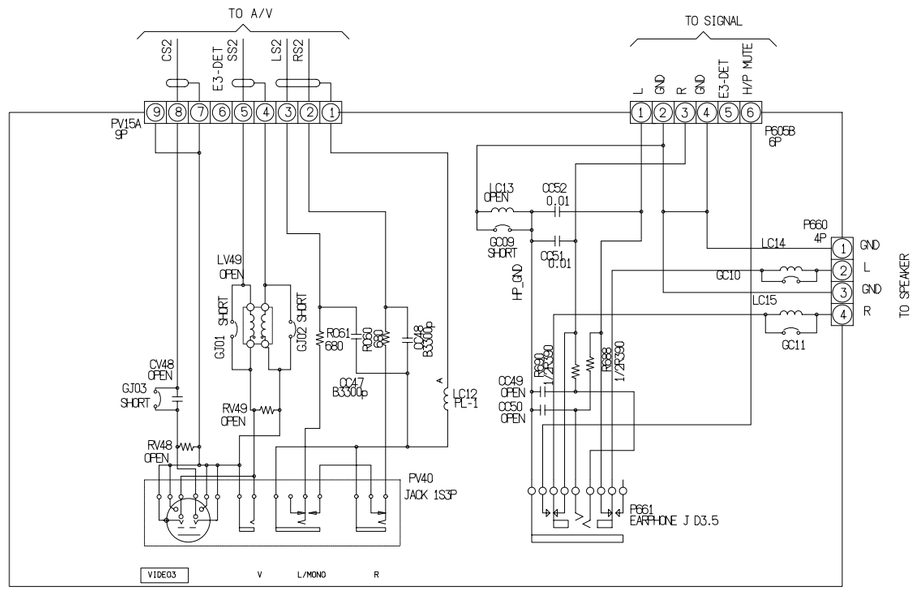
U901F
SVM B
PD



43PH36P
50PH36P
CRT-D SVM
SHEET-2/2 (17/18)







50PH36P
FRONT-IN RMT-IN (18/18)